Prior to OGCC

FILE NOTATIONS

Entered in N I D File		Checked by Chief	
Entered On S R Sheet		Copy N I D to Field Office	
Location Map Pinned		Approval Letter	
Card Indexed		Disapproval Letter	
I W R for State or Fee Land			

COMPLETION DATA:

Date Well Completed 5-18-62	Location Inspected
OW WW TA	Bond released State of Fee Land
GW OS PA ✓	

LOGS FILED

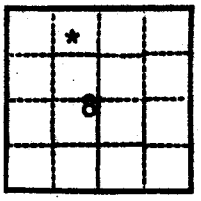
Driller's Log

Electric Logs (No.) 2

E I E-I ✓ GR GR-N Micro

Lat Mi-L Sonic Others Radioactivity Log

43-027-11473



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
CONSERVATION DIVISION

INDIVIDUAL WELL RECORD

Sec. 8
T. 15S
R. 17W
S.L. Mer.

PUBLIC LAND: Date July 22, 1952 Ref. No. 1

Land office (3-1-51) Salt Lake City State Utah

Serial No. 069798 County Millard

N 37.3 mi. fm Hy 6, 1/2 mi. from Nevada E at Shamrock and Partoun signs 8.7 mi. to well--inspected 12-17-57 N 6--see bot on old IWR in file

Lessee Mary M. Lochhead Field WC

Operator Standard Oil Co. of Calif. District Salt Lake City

Well No. 1 Subdivision E NE¼ NW¼

Location 565 ft. from N. line and 2371 ft. from W. line of Sec. 8*

Drilling approved Oct. 1, 19 51 Well elevation 5530 5520 GR feet

Drilling commenced Dec. 5, 19 51 Total depth 6200 feet

Drilling ceased May 18, 19 52 Initial production

Completed for production , 19 Gravity A. P. I.

Abandonment approved July 13, 19 54 CM 11-5-54 Initial R. P.

Geologic Formations		Productive Horizons		
Surface	*Lowest tested*	*Name*	*Depths*	*Contents*
Supai Permian				Dry Hole

WELL STATUS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1951												Drg.
1952	Drg.	Drg.	Drg.	Drg.	Abd.							
1954							P&A 6200'					

REMARKS New--noncompetitive lease issued under Sec. 17 of Act of 8-8-46
*Unsurveyed land. Location: S. 52° 37' 15" E. 9627.95' from corner common to T.14 & 15 S. and R. 17 & 18W.

(see over)

REPLACEMENT SHEET

U.S. GOVERNMENT PRINTING OFFICE: 1972—721-203/135 REGION 3

CHEVRON OIL COMPANY
WESTERN DIVISION
1700 BROADWAY P. O. BOX 599 DENVER COLO 80201

March 21, 1967

The State of Utah
Oil & Gas Conservation Commission
348 E. South Temple
Salt Lake City, Utah 84111

Attn: Sharon Cameron
Records Clerk

Dear Miss Cameron:

In accordance with your request, we are enclosing logs and completion reports on Standard Fell Burbank Unit #1, Sec. 3, T22 S, R19 W, and Standard Fell Desolation Unit #1, Sec. 8, T15 S, R17 W.

Very truly yours,
Chevron Oil Company
St. Ives Gray
Geological Assistant

15

COMPLETION REPORT - NEW WELL [illegible]

STAIDARD OIL COMPANY OF CALIFORNIA

FIELD: Desolation Anticline, Millard County, Utah.

PROPERTY: Desolation Unit #1

WELL NO.: Desolation Unit #1 Sec. 8 T. 15S R. 17W S.L. B.& M.

LOCATION: South 565.00' and east 2370.71' of the northwest corner of Section 8-15S-17W.

ELEVATION 5530.6' Derrick Floor. D.F. is 10.6' above msl.

DATE:

DRILLED BY: Shamrock Drilling and Exploration Co.

DATE COMMENCED DRILLING: December 5, 1951

DATE COMPLETED DRILLING: May 18, 1952

DATE OF INITIAL PRODUCTION: None. Well abandoned May 18, 1952

SUMMARY

Total Depth: 6200'

Plugs: Cement bridge at 4604'; 20-foot cement plug at surface.

Casing: 22"-18'; 16"-204'

Junk: None

Drillers: W. L. Brunton
T. W. Barnes

The following are the formation tops in this well:

Supai sandstone - Permian	Surface
Bird Springs limestone - Pennsylvanian	1175' ?
Chainman shale - Miss.	2514'
Joana limestone - Mississippian	4583'
Pilot shale - Miss.	4620'
Guilmette limestone ?-Devonian	5440'
Guilmette dolomite - Devonian	5754'
Guilmette dolomite at TD	6200'

STANDARD OIL COMPANY OF CALIFORNIA - OPERATOR

HOLE DEVIATION RECORD CORRECTED

Kind	Depth	Deviation
Tertiary rock	2965'	2°45'
"	3091'	3°00'
"	3145'	3°00'
"	3175'	2°45'
"	3268'	3°00'
"	3320'	2°30'
"	3358'	3°00'
"	3397'	3°00'
"	3419'	2°45'
"	3468'	2°45'
"	3525'	2°15'
"	3583'	2°15'
"	3656'	2°15'
"	3720'	2°45'
"	3810'	3°00'
"	3875'	2°45'
"	3930'	2°15'
"	3990'	2°30'
"	4083'	2°45'
"	4152'	2°30'
"	4235'	3°00'
"	4320'	3°00'
"	4410'	3°15'
"	4460'	4°00'
"	4485'	2°15'
"	4531'	3°00'
"	4616'	2°30'
"	4680'	2°45'
"	4783'	2°45'
"	4824'	1°45'
"	4950'	2°00'
"	4980'	1°30'
"	5070'	2°15'
"	5170'	2°30'
"	5255'	2°15'
"	5409'	2°15'
"	5500'	1°45'
"	5590'	0°45'
"	5680'	2°00'
"	5792'	1°00'
"	5900'	1°00'
"	5960'	1°30'
"	6052'	1°30'
"	6470'	3°15'
"	6731'	4°00'
"		

STANDARD OIL COMPANY OF CALIFORNIA-OPERATOR

Desolation Unit #1 is a joint Standard-Sinclair Exploratory well located approximately ninety-five miles north of Garrison, Utah. The well was drilled to test the Desolation anticline with the lower Birds Springs formation and the Joana limestone as the primary objectives. The well was drilled by Shamrock Drilling and Exploration Co., contractors, using portable rotary equipment.

November 15, 1951 — Cemented 22" conductor pipe at 18'.

December 5, 1951 — Spudded at 10:20 a.m.

December 5-9, 1951 — Drilled 15" hole 18'-168', sandstone with some dolomite, limestone, and chert.

December 9-12, 1951 — Drilled 12¼" hole 168'-410', sandstone with streaks of dolomite.

December 12-13, 1951 — Opened 15" hole to 19½" from 18'-141'.

December 13-14, 1951 — Drilled 12¼" hole 410'-420', sandstone with streaks of dolomite.

December 14, 1951 — Diamond cored 7" hole:

420' 420'	435' 424'	15' 4'	Recovered 15': Dolomite, gray, very hard, dense, microcrystalline. Very little fracturing.
424'	429'	5'	Sandstone, buff white, lime cemented. Few calcite-filled fractures.
429'	435'	6'	Dolomite as first above (420'-424'): NOSC. No fluorescence.

December 14-16, 1951 — Opened 7" hole to 12¼" from 420'-435' and drilled 12¼" hole 435'-500', sandstone with streaks of dolomite.

December 16, 1951 — Opened 15" hole to 19½" from 141'-163' and opened 15" hole to 18-5/8" from 168'-204'.

[illegible]	Cemented 205' of 16" o.d. line pipe at [illegible] sacks of Utah Construction cement. Preceded cement with 3 barrels of water and displaced with 46 barrels of mud, which is 2 barrels in excess of theoretical displacement. Plugs did not bump. Fifteen minutes mixing and thirteen minutes displacing. Had full returns throughout job and had cement returns to surface during final period of displacing. Used two Halliburton top wooden plugs and a 6" x 8" x 14" spacer. Final pressure was 0 psi. Cement in place at 2:45 a.m. Used Halliburton power equipment.

Casing Detail:

All 207.52' or 5 jts. is 16", 62.58#, Grade B, new National seamless plain end line pipe equipped with welded-on collars to provide slip joint couplings.

Bottom 1.33' ——— Baker cement guide shoe.

Total 208.85' of 16" casing cemented at 204'.

Cut and recovered 20.35' of 16" casing, 15.50' of which was below the derrick floor.

December 17, 1951	Located top of cement in annulus at 49'. Filled annulus outside of 16" casing from 49' to surface with 14 sacks of Utah Construction cement.
December 17, 1951	Landed 16" casing.
December 18, 1951	Installed BOPE. Tested positive rams and drill pipe rams to 500 psi for 15 minutes. Held okay.
December 18, 1951	Drilled out plugs, spacer, and cement from 189'-204'. Opened 12¼" hole to 15" from 204'-214'.
December 19-20, 1951	Drilled 12¼" hole 500'-568', dolomite, and sandstone.
December 20, 1951	Drilled 9-7/8" hole 568'-618', dolomite, and sandstone. Lost circulation completely while drilling at 618'. Located fluid level at 230'. Pumped in 70 barrels of mud and filled hole to surface. Fluid level held at surface.

December 21, 1951 — Drilled 9-7/8" hole 618'-655', dolomite and sandstone. Lost circulation at a rate of 36 to 200 barrels per hour, while drilling from 651'-655'.

December 21, 1951 — Cemented for lost circulation. Pumped in 40 sacks of Utah Construction cement and 2 sacks Cal Seal mixed with calcium chloride water through open-end drill pipe at 654'. Followed cement with $6\frac{1}{2}$ barrels mud to displace. Four minutes mixing and two minutes displacing. Cement in place at 2:30 p.m. Used Halliburton power equipment.

December 21, 1951 — At 7:00 p.m. located top cement plug with open drill pipe at 635'. (19' fill up).
At 7:30 p.m. filled hole with mud. Fluid level held at surface.

December 21-22, 1951 — Drilled out cement plug. 620'-655' and drilled 9-7/8" hole 655'-665', sandstone and dolomite, with full returns.

December 22, 1951 — Diamond Cored 7" hole:

665'	675'	10'	Recovered 10':
665'	675'	10'	Dolomitic siltstone, gray, hard, slightly siliceous with vertical to very high angle fractures. One very poor dip of 10°. NOSC.

December 22-24, 1951 — Opened 7" hole to 9-7/8" from 665'-675' and drilled 9-7/8" hole 675'-831', dolomite and siltstone.

December 24, 1951 — Diamond Cored 7" hole:

831'	841'	10'	Recovered 10':
831'	841'	10'	Dolomitic siltstone, dirty, dull gray, very hard, tough, dense. The first 2' consist of a slightly darker extremely fine-grained, slightly limey silt. The lower section consists of silt-size quartz grains grading to some sand-size grains with abundant dolomite cement. Common high angle fracturing, generally calcite filled, but with occasional calcite crystal lined vugs and openings. Very little yellow limonite (?) staining. Very poor P & P in first 2'; but poor to fair P & P in lower 8'. No stain, cut, or fluorescence; but a fresh surface has a very faint fetid, to petroliferous odor.

December 24, 1951 (Cont'd)

Diamond Cored 7" hole:

841'	851'	10'	Recovered 10'
841'	851'	10'	Sandstone, buff to gray, very hard, tough, dense. First 5' are highly shattered and fractured with some thin low angle zones filled with a fine clay, gouge-like, material. Lower 5' have some high angle fracturing, normally calcite filled. Entire core has common small calcite crystals lined vugs and openings. Grain size varies from fine to extremely fine and silty with dolomite cement and slightly siliceous. Abundant yellow limonite staining in top 5', common in lower 5'. Poor to fair P & P. NOSC and no fluorescence.

December 24, 1951

Opened 7" hole to 9-7/8" from 831'-851' and drilled 9-7/8" hole to 851'-864', dolomitic sandstone. Lost circulation completely while drilling at 864'.

December 25, 1951

Cemented for lost circulation. Pumped in 50 sacks of Utah Construction cement mixed with 5 sacks Calseal and 7.5 barrels of $CaCl_2$ water through open end drill pipe at 862'. Preceded cement with 7 barrels of Gel mud mixed with 1 sack Silvacel and displaced cement with 3.5 barrels water. 3 minutes mixing and 2 minutes displacing. Cement in place at 1:30 a.m. Used Halliburton power equipment.

December 25, 1951

At 5:30 a.m. located top cement plug at 800' and fluid level at 689'. At 9:00 a.m. drilled out cement 800'-864' and drilled 9-7/8" hole 864'-870', sandstone and dolomite. Lost circulation completely while drilling at 870'. Drilled 9-7/8" hole 870'-875' with water and without returns.

December 25, 1951 — Cemented for lost circulation. Pumped in 40 sacks of Utah Construction cement mixed with 4 sacks Calseal and 6.5 barrels of $CaCl_2$ water through open end drill pipe at 872'. Preceded cement with 9 barrels of Gel mud mixed with 1 sack Silvacel and displaced cement with 3.5 barrels water. 3 minutes mixing and 1 minute displacing. Cement in place at 3:00 p.m. Used Halliburton power equipment.

December 25, 1951 — At 7:00 p.m. ran open end drill pipe to bottom (875') and found no cement.

December 25, 1951 — Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks Calseal and $CaCl_2$ water through open end drill pipe at 872'. Displaced cement with 3.5 barrels water. 2½ minutes mixing and 1 minute displacing. Cement in place at 8:00 p.m. Used Halliburton power equipment.

December 26, 1951 — At 12:30 a.m. located top cement plug at 796' with open end drill pipe. At 3:00 a.m. drilled out cement 796'-875' with full returns, then lost circulation completely at 875'.

December 26, 1951 — Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks of Calseal and steam-heated $CaCl_2$ water. Displaced cement with 3.5 barrels water. 2 minutes mixing and 1 minute displacing. Cement in place at 8:45 a.m. Used Halliburton power equipment.

December 26, 1951 — At 2:00 p.m. ran bit to bottom and found no cement. Drilled 9-7/8" hole 875'-888' with water and without returns.

December 26, 1951 — Cemented for lost circulation. Pumped in 27 sacks of Utah Construction cement mixed with 3 sacks Calseal and $CaCl_2$ water through open end drill pipe at 886'. Followed cement with 3.5 barrels water to displace. 2 minutes mixing and 1 minute displacing. Cement in place at 4:30 p.m. Used Halliburton power equipment.

December 26, 1951 — At 8:30 p.m. ran Halliburton wireline to bottom (888') and found no cement. Mixed 45 barrels thick Gel mud and Silvacel and spotted on bottom through open end drill pipe.

December 26, 1951 — Cemented for lost circulation. Pumped in 35 sacks Utah Construction cement mixed with 3 sacks Calseal and $CaCl_2$ water through open end drill pipe at 886'. Followed cement with 3.5 barrels water to displace. 3 minutes mixing and 1 minute displacing. Cement in place at 10:50 p.m. Used Halliburton power equipment.

December 27, 1951 — At 3:00 a.m. ran Halliburton wireline to 868' and found no cement.

December 27, 1951 — Cemented for lost circulation. Pumped in 50 sacks Utah Construction cement mixed with 5 sacks Calseal and 7 barrels of $CaCl_2$-Gel water. Followed cement with 3.5 barrels water to displace. 4 minutes mixing and 1 minute displacing. Cement in place at 5:00 a.m. Used Halliburton power equipment.

December 27, 1951 — At 9:00 a.m. located top cement plug at 873' using Halliburton wireline.

December 27, 1951 — At 11:00 a.m. pumped in approximately 3 pits of water (180 bbls.) and filled hole, but fluid dropped away at the rate of 84 barrels per hour.

December 27, 1951 — Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks of Calseal and $CaCl_2$-3% Gel water through open end drill pipe at 871'. Displaced with 5 barrels water. 3 minutes mixing and 1 minute displacing. Cement in place at 1:20 p.m. Used Halliburton power equipment.

December 27, 1951

At 5:30 p.m. located top cement plug at 338' using Halliburton wireline. Attempted to fill hole with water but unable to raise fluid level above 190'.

December 27, 1951

Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks of Calseal and $CaCl_2$ water through open end drill pipe at 835'. Followed cement with 10.5 barrels of water to displace. 2 minutes mixing and 3 minutes displacing. Cement in place at 7:00 p.m. Used Halliburton power equipment.

December 27, 1951

At 11:00 p.m. located top cement plug at 732' with Halliburton wireline.

December 28, 1951

Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks Calseal and $CaCl_2$-3% Gel water through open end drill pipe at 620'. Followed cement with 6 barrels water to displace. 3 minutes mixing and 2 minutes displacing. Cement in place at 12:50 a.m. Used Halliburton power equipment.

December 28, 1951

At 5:00 a.m. located top cement plug at 575' with Halliburton wireline. At 6:00 a.m. pumped 30 barrels mud in hole but unable to raise fluid level above 135'.

December 28, 1951

Cemented for lost circulation. Pumped in 40 sacks of Utah Construction cement mixed with 4 sacks Calseal and $CaCl_2$-2.5% Gel water through open end drill pipe at 210'. Followed cement with 2½ barrels water to displace. 3 minutes mixing and 1 minute displacing. Cement in place at 6:55 a.m. Used Halliburton power equipment.

December 28, 1951

At 11:00 a.m. filled hole with mud and fluid level held at surface. Ran 9-7/8" bit and drilled out cement 559'-875' with full returns. Lost circulation completely while drilling out cement at 878'. Cleaned out cement 878'-[illegible]' without returns.

December 29, 1951 — Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks of Calseal and CaCl, water through open end drill pipe at 836'. Followed cement with 3 barrels of water. 3 minutes mixing and 1 minute displacing. Cement in place at 12:15 a.m. Used Halliburton power equipment.

December 29, 1951 — At 4:25 a.m. located top of cement at 753' with Halliburton line. Filled hole with mud at 8:45 a.m. and fluid level held at surface. At 9:45 a.m. Ran 9-7/8" bit and located top soft cement at 753'. Cleaned out firm 824'-838' with full returns to surface.

December 29-30, 1951 — Drilled 9-7/8" hole 838'-972', dolomite and limestone with full returns.

December 30, 1951 — Diamond Cored 7" hole:

972'	982'	10'	Recovered 10':
972'	982'	10'	Shaly limestone, light gray, hard, dense, finely sugary crystalline, and arenaceous, with very common high angle fractures filled with calcite, rare possible fossil replacements and common stylolites, dips vary between 3-25°. NOSC

December 30-31, 1951 — Opened 7" hole to 9-7/8" from 972'-982' and drilled 9-7/8" hole 982'-1004', limestone. Lost circulation completely while drilling at 1004'. Located fluid level at 372'.

December 31, 1951 — Cemented for lost circulation. Pumped in 50 (56#) sacks of Panacrete 1:1:6% Gel premix through open drill pipe at 1002'. Followed cement mix with 8 barrels mud to displace. 4 minutes mixing and 2 minutes displacing. Cement in place at 2:15 p.m. Used Halliburton power equipment.

December 31, 1951 — At 6:30 p.m. ran Halliburton wireline and located questionable top cement plug at 700'. At 7:30 p.m. filled hole with mud and fluid level held okay.

January 1, 1952

Ran 9-7/8" bit, cleaned out cement bridge 630'-652', and drilled 1004'-1004½' with full returns. Lost circulation completely at 1004½', and bit dropped ½' to 1005'. Bit took weight at 1005', then dropped 2' to 1007', where bit again took weight, then dropped 2' to 1009'. Drilled 9-7/8" hole 1008'-1022' with mud and water and without returns.

January 1, 1952

Cemented for lost circulation. Pumped in 50 sacks Panacrete-cement (1:2:6% Gel) premix mixed with 7½ barrels $CaCl_2$ water and 2½ sacks Calseal to average 108 pcf slurry through open end drill pipe at 1018'. Followed cement-Panacrete mixture with 5 barrels water to displace. 5 minutes mixing and 1½ minutes displacing. Cement in place at 2:35 p.m. Used Halliburton power equipment.

January 1, 1952

Ran open end drill pipe to 1022' and found no cement. Fluid level stood at 380'.

January 1, 1952

Cemented for lost circulation. Pumped in 35 sacks Panacrete-cement (1:2:6% Gel) premix mixed with 5 barrels $CaCl_2$ water and 2 sacks Calseal to average 108 pcf slurry through open end drill pipe at 1018'. 3 minutes mixing and 2 minutes displacing. Cement in place at 7:35 p.m. Used Halliburton power equipment.

January 2, 1952

Cemented for lost circulation. Pumped in 25 sacks Dash Construction cement and 3 sacks Calseal followed with 12 sacks Panacrete-cement (1:2:6% Gel premix), all mixed with warm $CaCl_2$ water through open end drill pipe at 1008'. Followed cement and Panacrete-cement mix with 5 barrels water to displace. 4 minutes mixing and 2 minutes displacing. Cement in place at 12:15 a.m. Used Halliburton power equipment.

January 2, 1952

Ran open end drill pipe to 1022' but found no cement.

January 2, 1952	Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks Calseal and $CaCl_2$, 3½# Gel water through open-end drill pipe at 1010'. Followed cement with 5 barrels water to displace. 3 minutes mixing and 2 minutes displacing. Cement in place at 5:05 a.m. Used Halliburton power equipment.
January 2, 1952	Ran open-end drill pipe to 1022' but found no cement.
January 2, 1952	Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 3 sacks Calseal and $CaCl_2$ water through open-end drill pipe at 1010'. Followed cement with 5 barrels water to displace. 3 minutes mixing and 2 minutes displacing. Cement in place at 9:40 a.m. Used Halliburton power equipment.
January 2, 1952	At 2:15 p.m. located top cement plug at 1019' with open-end drill pipe.
January 2, 1952	Spotted bentonite-diesel mixture through open-end drill pipe at 990'. Pumped in 10 barrels diesel oil and followed with 19 barrels of Wyogel-diesel mixture (3 sacks Wyogel to 1 barrel diesel oil) through open-end drill pipe at 990'. Followed Wyogel-diesel oil mixture with 7 barrels diesel oil 5 minutes pumping in mixture and 2 minutes displacing. Pumped in 10 barrels Gel mud through annulus with rig pumps while displacing mixture through drill pipe with Halliburton power equipment. Gel mix in place at 4:05 p.m.
January 2, 1952	Pumped in 150 barrels mud but unable to fill hole.
January 2, 1952	At 8:45 p.m. ran open-end drill pipe and located top of solid plug at 1011'. (8' fill-up)
January 2, 1952	Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement and 3 sacks of Calseal mixed with $CaCl_2$ water through open-end drill pipe at 1010'. Followed cement with 5 barrels water to displace. 3 minutes mixing and 2 minutes displacing. Cement in place at 3:10 p.m. Used Halliburton power equipment.
January 3, 1952	Located top plug at 1010' with open-end drill pipe.

January 3, 1952	Cemented for lost circulation. Pumped in 35 sacks of Work Construction cement mixed with 3 sacks Calseal and 3# $CaCl_2$ water through open end drill pipe at 1007'. Followed cement with 5 barrels water to displace. 3 minutes mixing and 1½ minutes displacing. Cement in place at 2:20 a.m. Used Halliburton power equipment.
January 3, 1952	At 6:30 a.m. located top of plug at 1010' with open end drill pipe.
January 3, 1952	Spotted bentonite-diesel mixture through open end drill pipe at 990'. Pumped in 10 barrels diesel oil and 18½ barrels Wyogel-diesel mixture (3 sacks Wyogel to 1 barrel diesel oil) through open end drill pipe at 990'. Followed mixture with 6 barrels diesel oil to displace and pumped 20 barrels mud in annulus with rig pumps while mixture and diesel oil were being pumped in through drill pipe with Halliburton power equipment. 7 minutes pumping mixture and displacing fluid. Gel mix in place at 8:30 a.m.
January 3, 1952	At 12:30 p.m. pumped in 124 barrels mud and filled hole to surface, but fluid dropped away at 70 barrels per hour rate.
January 3, 1952	Spotted bentonite-diesel mixture through open end drill pipe at 990'. Pumped in 6 barrels diesel oil and 30 barrels Wyogel-diesel mixture (14 barrels diesel oil mixed with 42 sacks Wyogel) through open end drill pipe at 990'. Followed mixture with 6 barrels diesel oil to displace. Pumped 11½ barrels mud in annulus with rig pumps during period mixture was being pumped in and displaced with Halliburton power equipment. 7 minutes pumping mixture and displacing fluid. Gel mix in place at 3:00 p.m.
January 3, 1952	Filled hole with mud and fluid level held at surface. Ran 9-7/8" bit and cleaned out Gel 765'-1002' with full returns. Lost circulation completely while cleaning out at 1002'.
January 4, 1952	Spotted bentonite-diesel mixture through open end drill pipe at 990'. Pumped in 10 barrels diesel oil and 17 barrels Wyogel-diesel mixture (14 barrels diesel oil mixed with 42 sacks Wyogel) through open end drill pipe at 990'. Followed mixture with 6 barrels diesel oil to displace. Pumped 10 barrels mud in annulus with rig pumps while Wyogel-diesel mixture was being pumped in and displaced with Halliburton power equipment. Reciprocated drill pipe through 10-foot interval, 980'-990', during entire job. 7 minutes pumping mixture and displacing fluid. Mixture in place at 4:05 a.m.

January 4, 1952 — At 5:40 a.m. pumped in 30 barrels mud through fill up line.

January 4, 1952 — At 7:00 a.m. pumped in 60 barrels mud and filled hole to surface. Fluid level held okay. Ran 9-7/8" bit and cleaned out gel 923'-1013'. Lost circulation completely while cleaning out at 1013'.

January 4, 1952 — Spotted bentonite-diesel mixture through open end drill pipe at 1012'. Pumped in 6 barrels diesel oil and 20 barrels Wyogel-diesel mixture (14 barrels diesel oil and 42 sacks Wyogel) through open end drill pipe at 1012'. Followed mixture with 6 barrels diesel oil to displace. Reciprocated drill pipe through 7-foot interval 1005'-1012' while pumping in and displacing mixture. Mixture in place at 4:05 p.m. Used Halliburton power equipment.

January 4-5, 1952 — At 7:00 p.m. filled hole to surface and fluid level held okay. Ran 9-7/8" bit and cleaned out gel 913'-952' and lost circulation. Pulled out and filled hole to surface. Fluid level held okay. Re-ran 9-7/8" bit, cleaned out gel to 965', and lost circulation.

January 5, 1952 — Cemented for lost circulation. Pumped in 50 sacks of Utah Construction cement mixed with 5 sacks of Calseal and 7 barrels $CaCl_2$ water (average 117 pcf slurry) through open end drill pipe at 920' with drill pipe rams closed. Displaced cement with 12½ barrels water. 4 minutes mixing and 4 minutes displacing. Final pressure estimated at 150 psi. Opened rams but had no flow back from annulus, although fluid was at surface before and after job. Had approximately 2½ barrels flow back from drill pipe after breaking connection. Cement in place at 8:25 a.m. Used Halliburton power equipment.

January 5, 1952 — At 2:45 p.m. located top plug at 953'. Cleaned out with 9-7/8" bit 953'-1022' with full returns.

January 5, 1952 — Drilled 9-7/8" hole 1022'-1023' and lost circulation completely while drilling at 1023'.

January 5, 1952 — Cemented for lost circulation. Pumped in 50 sacks cement-Panacrete premix (1:2:6⅔ Gel) mixed with 2 barrels $CaCl_2$ water through open end drill pipe at 1022'. Followed cement-Panacrete mixture with 6 barrels water to displace. 4 minutes mixing and 2 minutes displacing. Cement in place at 11:35 p.m. Used Halliburton power equipment.

January 5, 1952	Ran open-end drill pipe to 1023' but found no cement. Located fluid level at 735'.
January 6, 1952	Spotted bentonite-diesel mixture in bottom through open end drill pipe at 1022'. Pumped in 6 barrels diesel oil and 20 barrels Wyogel-diesel mixture (14 barrels diesel oil mixed with 42 sacks Wyogel) through open end drill pipe at 1022'. Followed mixture with 6 barrels diesel oil to displace. Reciprocated drill pipe through 7' interval 1022'-1015' while pumping in and displacing. 7 minutes pumping and displacing mixture with Halliburton power equipment. Mixture in place at 9:10 a.m.
January 6, 1952	Located fluid level after job at 270'. Pumped in 57 barrels mud through drill pipe at 200', but unable to fill hole.
January 6, 1952	At 11:30 a.m. located top plug at 928'.
January 6, 1952	Cemented for lost circulation. Pumped in 50 sacks of Utah Construction cement mixed with 5 sacks Calseal and $CaCl_2$ water (average 120 pcf slurry) and followed with 15 sacks Panacrete-cement mix (1:2:4% Gel) mixed with $CaCl_2$ water (average 90 pcf slurry) through open end drill pipe at 823'. Followed cement with 5 barrels water. Cement in place at 12:50 p.m. Used Halliburton power equipment. Had no returns to surface during job, but had 3 barrels back flow when breaking pipe connection to pump.
January 6-7, 1952	Filled hole with mud and fluid level held at surface. Ran 9-7/8" bit and located top plug at 865'. Cleaned out gel and cement 865'-1023' with full returns. Drilled 9-7/8" hole 1023-1031', gray dolomite. Lost circulation completely while drilling at 1031'.
January 7, 1952	Spotted 20 barrels bentonite-diesel oil mixture through drill pipe at 1027'. Pumped in 6 barrels diesel oil and followed with 20 barrels bentonite Wyogel-diesel oil mixture (14 barrels diesel oil and 42 sacks Wyogel) through open end drill pipe at 1027'. Followed mixture with 6 barrels diesel oil to displace. Reciprocated drill pipe through 7' interval (1020'-1027') while mixture was being pumped in and displaced. 7 minutes pumping and displacing mixture with Halliburton power equipment. Mixture in place at 6:05 a.m.
January 7, 1952	Located fluid level at 460'. Pumped in 130 barrels and filled hole. Fluid level held okay. Located top gel plug at 909'. Ran 9-7/8" bit and cleaned out gel 909'-1031'. Lost circulation at 1031'.

January 7, 1952 — Drilled 9-7/8" hole 1031'-1037' with water and without returns.

January 7, 1952 — Spotted 10 barrels bentonite-diesel oil mixture through drill pipe at 1033' and 30 sacks Utah Construction cement through drill pipe at 917'. Pumped in 6 barrels diesel oil and followed with 10 barrels Wyogel-diesel oil mixture (7 barrels diesel oil and 21 sacks Wyogel) through open end drill pipe at 1033'. Followed mixture with 5 barrels diesel oil to displace. Pulled drill pipe at 917' and pumped in 30 sacks Utah Construction cement mixed with $CaCl_2$ water and followed with 5 barrels water to displace. Cement in place at 6:45 p.m. Used Halliburton power equipment.

January 7, 1952 — At 11:30 p.m. filled hole with mud and fluid level held at surface.

January 8, 1952 — Ran 9-7/8" bit and located top plug at 973'. Cleaned out 973'-1037' with full returns. Drilled 9-7/8" hole 1037'-1040'. Lost circulation completely while drilling at 1040'. Drilled 9-7/8" hole 1040'-1070' with water and without returns

January 8, 1952 — Spotted 10 barrels bentonite-diesel oil mixture on bottom through drill pipe at 1069'. Pumped in 6 barrels diesel oil and followed with 10 barrels Wyogel-diesel oil mixture (21 sacks Wyogel to 7 barrels diesel oil) through open end drill pipe at 1069'.) Followed mixture with 6 barrels diesel oil to displace. 4 minutes pumping in and displacing mixture with Halliburton power equipment. Pumped 6 barrels water in annulus with rig pumps while mixture was being pumped in and displaced through drill pipe. Reciprocated pipe through 7' interval (1062'-1069') during entire job. Mixture in place at 2:00 p.m.

January 8, 1952 — At 4:00 p.m. filled hole with dilute Gel mud. Fluid level held at surface.

January 8, 1952 — Ran 9-7/8" bit to 890' and attempted to break circulation. Unable to obtain returns although fluid level held at surface while mud was pumped in through drill pipe. Ran open end drill pipe and located top plug at 1034'.

January 8, 1952 — Spotted 10 barrels bentonite-diesel oil mixture through drill pipe at 1033' and 30 sacks construction cement through drill pipe at 912'. Pumped in 6 barrels diesel oil and followed with 10 barrels Wyogel-diesel oil mixture (7 barrels diesel oil and 21 sacks Gel) through open end drill pipe at 1033'. Followed mixture with 5 barrels diesel oil to displace. Mixture in place at 9:40 p.m. Pulled drill pipe to 912' and pumped in 30 sacks Utah Construction cement mixed with 2 sacks Calseal and 5 barrels $CaCl_2$ water. Followed cement with 5 barrels water to displace.

January 8, 1952 (Cont'd)	Cement in place at 10:05 p.m. Used Halliburton power equipment. Pulled drill pipe and pumped in 10 barrels water through fill-up lines.
January 9, 1952	At 3:00 a.m. filled hole with mud and fluid level held at surface. Ran 9-7/8" bit and located top plug at 869'. Cleaned out plug 869'-1070' with full returns. Drilled 9-7/8" hole 1070'-1073', gray dolomite. Lost circulation completely while drilling at 1073'.
January 9, 1952	Spotted 10 barrels bentonite-diesel oil mixture through drill pipe at 1072' and 30 sacks construction cement through drill pipe at 912'. Pumped in 5 barrels diesel oil and followed with 10 barrels Wyogel-diesel oil mixture (7 barrels diesel oil and 21 sacks Gel) through open end drill pipe at 1072'. Followed mixture with 5 barrels diesel oil to displace. Pumped in 10 barrels water through fill-up line into annulus with rig pumps while displacing mixture. Reciprocated drill pipe 7' (1065'-1072') throughout job. Mixture in place at 11:15 a.m. Used Halliburton power equipment. Pulled drill pipe to 912' and pumped in 30 sacks Utah Construction cement mixed with 3 sacks Calseal and 4 barrels $CaCl_2$ water through drill pipe. Displaced with 5 barrels water. Cement in place at 11:45 a.m. Used Halliburton power equipment.
January 9, 1952	Filled hole with water and fluid level held at surface. At 6:00 p.m. located top plug at 905' with 9-7/8" bit. Cleaned out plug 905'-1073' with full returns.
January 9-10, 1952	Drilled 9-7/8" hole 1073'-1076' and lost circulation completely while drilling at 1076'. Drilled 9-7/8" hole 1076'-1104' with water and without returns.
January 10, 1952	Cemented for lost circulation. Pumped in 30 sacks Utah Construction cement mixed with 3 sacks Calseal and 4 barrels $CaCl_2$ water through open end drill pipe at 1102'. Followed cement with 5 barrels water to displace. Cement in place at 1:00 p.m. Used Halliburton power equipment.
January 10, 1952	At 5:00 p.m. located top plug at 1039' with Halliburton wireline and located fluid level at 770'.

January 10, 1952	Cemented for lost circulation. Pumped in 2 barrels diesel oil and followed with 3 barrels Wyogel-diesel oil mixture (2 barrels diesel oil--6 sacks Gel) through open-end drill pipe at 1040'. Followed diesel oil mixture with 1 barrel diesel oil, then pumped in 50 sacks Utah Construction cement mixed with 5 sacks Calseal and $CaCl_2$ water through drill pipe at 1040'. Followed cement with 5 barrels water to displace. Cement in place at 7:30 p.m. Used Halliburton power equipment.
January 10-11, 1952	At 11:30 p.m. (1-10-52), located top cement plug at 962' and fluid level at 685' with Halliburton wireline. Filled hole with water, and fluid level held at surface.
January 11, 1952	Located top plug at 962' with 9-7/8" bit. Cleaned out 962'-1104' with full returns. Drilled 9-7/8" hole 1104'-1130', sandstone and siltstone. While drilling 1115'-1130' loss of circulation increased from 11 barrels per hour to 35 barrels per hour. Unable to regain circulation with Silvacel and cotton seed hulls.
January 11, 1952	Cemented for lost circulation. Pumped in 55 sacks of Utah Construction cement mixed with 5 sacks Calseal and 8-1/2 barrels $CaCl_2$ water through open-end drill pipe at 1128'. Followed cement with 5 barrels water to displace. 5 minutes mixing and 5 minutes displacing. Cement in place at 4:55 p.m. Used Halliburton power equipment.
January 12, 1952	Filled hole with mud and fluid level held at surface. Located top plug at 1004' with 9-7/8" bit. Cleaned out cement 1004'-1130' and drilled 9-7/8" hole 1130'-1150', gray sandstone, with full returns.
January 12, 1952	Diamond cored 7" hole:

1150'	1160'	10'	Recovered 10':
1150'	1160'	10'	Sandstone, pale green buff to light gray, very hard, tough, lime cement and slightly siliceous, very fine-grained to siltsize quartz grains. Occasional high-angle calcite-filled fractures, usually to 1/8"; but several are to 1/2" thick and slightly open, with calcite crystal lining. Some have red and yellow iron staining. NOSC and no fluorescence. Good dips of 2"-3". Poor P and P.

January 12-14, 1952 — Opened 7" hole to 9-7/8" from 1150'-1160' and drilled 9-7/8" hole 1160-1263', dark gray limestone and dolomite.

January 14, 1952 — Diamond Cored 7" hole:

1263'	1268'	5'	Recovered 5':
1263'	1268'	5'	Shaly dolomite, black, hard, micro-crystalline. Seven partings of soft, black, dolomitic shale. Thin interbeds of dolomitic siltstone (yellow and very fine grained) to 1" thick from 1263'-1264½'. Occasional high-angle calcite-filled fractures. Possibly some fractures P and P. NOS. Siltstone has a very faint fluorescence and gives faint fluorescence cut. Good 5° dips.

January 14-16, 1952 — Opened 7" hole to 9-7/8" from 1263'-1268' and drilled 9-7/8" hole 1268'-1365', limey shale and limestone.

January 16, 1952 — Diamond Cored 7" hole:

1365'	1375'	10'	Recovered 10':
1365'	1368'	3'	Shale, dark gray to black, hard, dense, carbonaceous, slightly shaly and siliceous.
1368'	1370'	2'	Limestone, creamy ashy gray, hard, dense, slightly silty, and finely crystalline with common calcite-filled fractures from 1/8" to 1/2" thick. Poorly preserved fossil fragments.
1370'	1373'	3'	Limestone, dark grey, hard, conchoidal, shaly, and carbonaceous.
1373'	1375'	2'	Limestone as in the interbedded 1368'-1370'. Core had good petroliferous odor on fresh breaks. Calcite-filled fractures have a gold fluorescence which gives a fluorescent cut. No stain. Poor P and P. Dips 7°-8°.

January 16-19, 1952 — Opened 7" hole to 9-7/8" from 1365'-1375' and drilled 9-7/8" hole 1375'-1518', limestone with some sandstone and siltstone.

January 19, 1952

Diamond Cored 7" hole:

1518'	1520'	2'	Recovered 1-1/2':
1518'	1519-1/2'	1-1/2'	Limestone, gray, hard, very tough and dense, slightly carboniferous with a very thin shaly parting, very finely crystalline. The few thin high-angle fractures are calcite filled. No stain, cut, or fluorescence. Fresh surface has an extremely faint fetid odor which immediately disappears. No apparent P and P.
1519-1/2'	1520'	1/2'	Not recovered.

January 19-23, 1952

Opened 7" hole to 9-7/8" from 1516'-1520' and drilled 9-7/8" hole 1520'-1740', shaly limestone, dolomite, and some chert.

January 23, 1952

Diamond Cored 7" hole:

1740'	1746'	6'	Recovered 6':
1740'	1746'	6'	Limestone, gray, hard, tough, dense, usually quite pure and fossiliferous but locally very shaly, very finely crystalline, with a few nodules and numerous beds or lenses (6"-1' thick) of chert, black, very hard, tough, dense, micro-crystalline. There are a very few high-angle calcite-filled fractures to 1/8" thick, and some minute calcite-filled fractures. One tiny calcite crystal lined vug and no other apparent openings. NOSC and no fluorescence. No apparent P and P. Fair dips of 7°-9°.

January 23-24, 1952

Opened 7" hole to 9-7/8" from 1740'-1746' and drilled 9-7/8" hole 1746'-1782', limestone with some chert and dolomite.

January 25, 1952

Diamond Cored 7" hole:

1782'	1787'	5'	Recovered 5':
1782'	1787'	5'	Limestone, gray to dark gray, very hard, tough to slightly brittle, fossiliferous, locally very siliceous, grading to dark gray and black chert, very finely crystalline. Very few high-angle calcite-filled fractures and [illegible] calcite-filled vugs. Some [illegible]

January 25, 1952 (Cont'd)

vugs are very slightly open, and some thin fractures are slightly open. Rare black shaly partings. P and P appear to be very poor to poor within the few open vugs and fractures. There is a poor to locally fair petroleum odor on the fresh surface and a very faint rare wavy coloring or staining in some of the calcite, but no apparent oil fluorescence and no fluorescent cut. Poor dips of 4°-6°.

January 25-26, 1952

Opened 7" hole to 9-7/8" from 1782'-1787' and drilled 9-7/8" hole 1787'-1864', limestone with some sandstone, dolomite, and chert. Lost circulation completely while drilling at 1864'. Located fluid level at 825' with Halliburton wireline.

January 27, 1952

Formation Test 1757'-1864'. Valve open 10 hours from 11:35 a.m. Had good blow for 2 minutes, diminishing to light blow for 1 minute and to faint for a minute. Dead in 5 minutes. Began swabbing after dead for 30 minutes. First fluid swabbed tested: pH 10.5; Cl 200 ppm. On the 20th swabbing the fluid had a faint white to greenish white fluorescence which gave the same color fluorescence cut. This fluorescence existed in all the rest of the swabbed fluids but never increased in intensity or contained any gas. Swabbed fluid for 9 hours. Fluid level stood at 900'. Recovered a net rise of 821' of water testing: pH 7, Cl 100 ppm. Pressure chart showed a static head of 525 psi which dropped to 400 psi when valve opened. Fluctuation of pressure during the period of swabbing was from 400 psi to 500 psi. Pressure before and after swabbing was 400 psi. Pressure chart indicated valve was open throughout test period. After the packer was set, the annulus was filled with water; and the fluid level in the annulus remained at the surface throughout the test period.

Tool detail: Ran Halliburton tester of 1650' of dry 2-1/2" UE tubing, 81' of 7" drill collars, with Shaffer jar-safety joint, and 1/2" beam in tool. Set single sidewall 8-1/2" packer at 1757' with perforated tail pipe from 1855'-1840' and from 1779'-1759', and two pressure recorders to 1864'.

January 28, 1952

Cemented for lost circulation. Pumped in 35 sacks of High Construction cement mixed with 4 sacks Calseal and 5 barrels of 6% Gel-CaCl2 water (ave. 97-1/2% per slurry) through open end drill pipe at 1863'. Followed cement with 13 barrels water to displace. 5 minutes mixing and 4 minutes displacing. Cement in place at 3:00 a.m. Had returns during final period of displacement. Used Halliburton power equipment.

January 28, 1952 — Ran 9-7/8" bit and cleaned out cement plug 1801'-1864' with full returns. Drilled 9-7/8" hole 1864'-1867' and commenced losing mud at 35 barrels per hour rate. Bit dropped 1/2' at 1868' and circulation was lost completely.

January 28, 1952 — Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 4 sacks of Calseal and 4-1/2 barrels of $CaCl_2$ water (ave. 116 pcf slurry) through open-end drill pipe at 1884'. Followed cement with 13 barrels water to displace. 2 minutes mixing and 3 minutes displacing. Cement in place at 8:40 p.m. Used Halliburton power equipment.

January 29, 1952 — At 12:30 a.m. located top cement plug at 1876' with Halliburton wireline. At 1:30 a.m. located top cement plug at 1885' with open-end drill pipe.

January 29, 1952 — Gel-diesel and cement job for lost circulation. Pumped in 3 barrels of diesel oil and followed with 4-1/2 barrels Wyogel-diesel oil mixture (3 barrels diesel oil and 12 sacks Wyogel) through open-end drill pipe at 1883'. Followed mixture with 1 barrel diesel oil. Followed Gel-diesel with 35 sacks of Utah Construction cement mixed with 4 sacks Calseal and 4-1/2 barrels $CaCl_2$ water (116 pcf slurry) through open-end drill pipe at 1883'. Followed cement with 12-1/2 barrels water to displace. 3 minutes mixing and 3 minutes displacing. Reciprocated drill pipe through 7' interval (1876'-1883') throughout job. Gel-diesel mixture and cement in place at 3:05 a.m. Used Halliburton power equipment.

January 29, 1952 — At 3:45 a.m. pumped in 200 barrels of water, but unable to fill hole. At 7:00 a.m. located top plug at 1869' and fluid level at 706' with Halliburton wireline. Located plug with drill pipe at 1884'.

January 29, 1952	Gel-diesel and cement job for lost circulation. Details of job were same as for previous job, except pipe was reciprocated through 7' interval (1861'-1868') while displacing gel-diesel mixture, and pipe was hung at 1855' for cement job which followed. Cement was in place at 9:30 a.m. Used Halliburton power equipment.
January 29, 1952	At 1:30 p.m. located top plug at 1865' and fluid level at 758' with Halliburton wireline. At 3:30 pumped in 200 barrels of water but unable to fill hole.
January 29, 1952	Gel-diesel mixture job for lost circulation. Pumped in 3 barrels of diesel oil and followed with 20 barrels diesel-Wyogel mixture (14 barrels diesel oil and 42 sacks Wyogel) through open-end drill pipe at 1860'. Displaced with 13 barrels of diesel oil. Reciprocated drill pipe 1860'-1867' throughout job and pumped 10 barrels of water in annulus while pumping in and displacing mixture. Mixture in place at 6:55 p.m. Used Halliburton power equipment.
January 29, 1952	At 9:00 p.m. located top plug at 1868' with open-end drill pipe.
January 29, 1952	Gel-diesel job for lost circulation. All details of job were same as for previous job except diesel-gel mixture was in place at 11:15 p.m. Used Halliburton power equipment.
January 30, 1952	Attempted to fill hole with water without success.
January 30, 1952	Diesel-gel job for lost circulation. Pumped in 3 barrels diesel oil and followed with 20 barrels diesel-Wyogel mixture (14 barrels diesel oil and 42 sacks Wyogel) through open-end drill pipe at 1850'. Followed mixture with 6 barrels diesel oil. Mixture in place at 7:30 a.m. Used Halliburton power equipment.
January 30, 1952	Attempted to fill hole with water without success.

January 30, 1952	Diesel-gel job for lost circulation. Details the same as for previous job except mixture was displaced through pipe reciprocated from 1830'-1840' and displaced with 12 barrels diesel oil. Mixture in place at 10:30 a.m.
January 30, 1952	Attempted to fill hole with water without success.
January 30, 1952	Diesel-gel job for lost circulation. Details the same as for previous job except mixture was in place at 4:10 p.m.
January 30, 1952	Attempted to fill hole with water without success.
January 30, 1952	Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 4 sacks Calseal and $CaCl_2$ water (4-1/2 barrels) through open-end drill pipe at 1840'. Followed cement with 12 barrels water to displace. 3 minutes mixing and 2 minutes displacing. Cement in place at 7:10 p.m. Used Halliburton power equipment.
January 31, 1952	Attempted to fill hole with water but fluid dropped away at 60 bbl./hr. rate.
January 31, 1952	Cemented for lost circulation. Pumped in 35 sacks of Utah Construction cement mixed with 4-1/2 barrels of $CaCl_2$ water through open-end drill pipe at 1833'. Followed cement with 15 barrels water to displace. 3 minutes mixing and 3 minutes displacing. Cement in place at 5:10 a.m. Used Halliburton power equipment.
January 31, 1952	Filled hole with water and fluid level held at surface. Ran 9-7/8" bit and located top plug at 1765'. Cleaned out plug 1765'-1865' and lost circulation completely while cleaning out at 1865'.
January 31, 1952	Gel-diesel and cement job for lost circulation. Pumped in 3 barrels diesel oil and 20 barrels diesel oil-Wyogel mixture (42 sacks Wyogel and 14 barrels diesel oil) through drill pipe reciprocated from 1855'-1865'. Followed

January 31, 1952 (Cont'd)

gel-diesel oil mixture with 3 barrels diesel oil and pulled pipe to 1855'. Pumped in 35 sacks Utah Construction cement mixed with 4 sacks Calseal and $CaCl_2$ water through open-end drill pipe at 1855'. Followed cement with 13 barrels water to displace. 3 minutes mixing and 3 minutes displacing. Cement in place at 7:15 p.m. Used Halliburton power equipment.

February 1, 1952

Pumped in 10 barrels water and located fluid level at 575' with wireline. Filled hole with water. Ran 9-7/8" bit and located plug at 1641'. Cleaned out cement and Gel with full returns to 1864', where circulation was lost completely. Ran open-end drill pipe and located plug at 1867'.

February 1, 1952

Cemented for lost circulation. Pumped in 55 sacks Utah Construction cement mixed with 6 sacks Calseal and 8-1/2 barrels $CaCl_2$ water (114 pcf slurry) through open-end drill pipe at 1866'. Followed cement with 13 barrels water to displace. 5 minutes mixing and 3 minutes displacing. Cement in place at 9:30 a.m. Used Halliburton power equipment.

February 1, 1952

Located top cement plug at 1845' with Halliburton wireline. Filled hole with water, and fluid level held at surface. Ran 9-7/8" bit, checked top plug at 1845', and cleaned out cement with full returns to 1865', where circulation was lost completely. Cleaned out to 1870' without returns.

February 1, 1952

Cemented for lost circulation. Pumped in 50 sacks Utah Construction cement mixed with 5 sacks Calseal and 4-1/2 barrels $CaCl_2$ water through open-end drill pipe at 1866'. Followed cement with 10 barrels water to displace. 4 minutes mixing and 2 minutes displacing. Cement in place 11:00 p.m. Used Halliburton power equipment.

February 2, 1952

Located top plug at 1831' with Halliburton wireline. Filled hole with mud. Fluid level held at surface. Ran 9-7/8" bit, cleaned out plug with full returns 1831'-1875' and lost circulation while cleaning out at 1875'. Cleaned out with water and without returns 1875'-1886'.

February 2, 1952 — Cemented for lost circulation. Pumped in 5½ sacks Utah Construction cement mixed with 5-1/2 sacks Calseal and 5 barrels $CaCl_2$ water through open-end drill pipe at 1838'. Followed cement with 10 barrels water to displace. 4 minutes mixing and 2 minutes displacing. Cement in place 11:00 a.m. Used Halliburton power equipment.

February 2-3, 1952 — Located top plug at 1843' with Halliburton wireline. Filled hole with water, and fluid level held at surface. Ran 9-7/8" bit, cleaned out cement plug 1848'-1886' with full returns and drilled 9-7/8" hole 1886'-1912', limestone with some shale. Lost circulation completely while drilling at 1912'. Drilled with water and without returns 1912'-1925'.

February 3, 1952 — Cemented for lost circulation. Pumped in 50 sacks Utah Construction cement mixed with 5 sacks Calseal and 5-1/2 barrels $CaCl_2$ water through open-end drill pipe at 1923'. Followed cement with 12 barrels water to displace. 3 minutes mixing and 3 minutes displacing. Cement in place at 4:45 p.m. Used Halliburton power equipment.

February 3, 1952 — Located top plug at 1873' and fluid level at 765' with Halliburton wireline. Pumped in 10 barrels water, stood 15 minutes, and located fluid level at 646'. Pumped in 175 barrels water but unable to fill hole.

February 4, 1952 — Cemented for lost circulation. Pumped in 50 sacks Utah Construction cement mixed with 5 sacks Calseal and 6 barrels $CaCl_2$ water (121 pcf slurry), through open-end drill pipe at 1876'. Followed cement with 15 barrels water to displace. 5 minutes mixing and 3 minutes displacing. Cement in place at 2:05 a.m. Used Halliburton power equipment.

February 4, 1952 — Located top plug at 1859' and fluid level at 720' with Halliburton wireline. Pumped in 10 barrels water, and fluid level held at 577' for fifteen minutes. Filled hole with water, and fluid level held at surface. Ran 9-7/8" bit, cleaned out cement plug 1859'-1873', but hole took fluid at 25 bbls./hr. rate while drilling out.

February 4, 1952	Cemented for lost circulation. Equalized 60 sacks Utah Construction cement mixed with 8 barrels $CaCl_2$ water (ave. 114 pcf slurry) through open-end drill pipe at 1923'. Displaced cement with 25 barrels water and had full returns to surface while displacing. Pulled drill pipe to 1801' and closed drill pipe rams. Squeezed cement with 3 barrels water (squeeze pressures for job were not known, because Halliburton pressure gauge was frozen). Held pressure for 5 minutes. 5 minutes mixing and 20 minutes displacing and squeezing. Cement in place at 3:45 p.m. Used Halliburton power equipment.
February 5, 1952	Ran 9-7/8" bit and located top plug at 1791', cleaned out plug 1791'-1925' and drilled 9-7/8" hole 1925'-1935' with full returns. Lost circulation completely while drilling at 1935'. Drilled with water and without returns 1935'-1947'.
February 5, 1952	Cemented for lost circulation. Pumped in 65 sacks Utah Construction cement mixed with 6 sacks Calseal and 8-1/2 barrels of $CaCl_2$ water (118 pcf slurry), through open-end drill pipe at 1945'. Followed cement with 16 barrels water to displace. 5 minutes mixing and 3 minutes displacing. Cement in place at 12:45 p.m. Used Halliburton power equipment.
February 5, 1952	Located top plug at 1865' and fluid level at 667' with wireline. Filled hole with water and fluid level held at surface. Ran 9-7/8" bit, located top plug at 1865', cleaned out cement 1865'-1930' with full returns.
February 6, 1952	Commenced losing circulation while drilling out cement plug at 1930' and lost circulation completely while drilling out at 1934'. Drilled out cement with water and without returns 1934'-1947'.
February 6, 1952	Cemented for lost circulation. Pumped in 50 sacks Ideal Construction cement mixed with 6 barrels $CaCl_2$ water (ave. 117 pcf slurry) through open-end drill pipe at 1946'. Followed cement with 17 barrels water to displace. 5 minutes mixing and 3 minutes displacing. Cement in place at 6:25 a.m. Used Halliburton power equipment.

February 6, 1952	Located fluid level at 389' with wireline. Stood 1/2 hr. and located fluid level at 399' and filled hole with Gel mud. Fluid level held at surface. Ran 9-7/8" bit, cleaned out cement with full returns 1884'-1904' and lost circulation while cleaning out at 1904'.
February 6, 1952	Cemented for lost circulation. Details the same as for previous job except cement was Utah Construction cement pumped through drill pipe at 1902', and cement was in place at 4:55 p.m.
February 6, 1952	Located top plug at 1872' and fluid level at 738' with Halliburton wireline. Pumped in 10 barrels water and located fluid level at 681'. Stood 15 minutes and located fluid level at 719'.
February 6, 1952	Cemented for lost circulation. Details were the same as for previous job except cement was pumped through drill pipe at 1871' and cement was in place at 11:00 p.m.
February 7-8, 1952	Located top plug at 1810' and fluid level at 525' with Halliburton wireline. Filled hole with mud, and fluid level held at surface. Ran 9-7/8" bit, cleaned out cement 1810'-1947' with full returns and drilled 9-7/8" hole 1947'-1999', limestone with some shale. Hole commenced taking fluid at 60 bbls./hr. rate at 1999', and circulation was lost completely while drilling at 2000'. Drilled 9-7/8" hole 2000'-2017' with water and without returns.
February 9, 1952	Pumped in 60 barrels thick Gel mud loaded with cotton hulls and seal flake through drill pipe at 2016'.
February 9, 1952	Cemented for lost circulation. Pumped in 50 sacks Utah Construction cement mixed with 6-1/2 barrels $CaCl_2$ water (116 pcf slurry) through open-end drill pipe at 2016'. Followed cement with 16 barrels water to displace. 4 minutes mixing and 3 minutes displacing. Cement in place at 2:00 a.m. Used Halliburton power equipment.
February 9, 1952	Located top cement plug at 1968' with drill pipe. Hole would not hold fluid.

February 9, 1952	Cemented for lost circulation. Details here same as for previous job except cement was pumped through drill pipe at 1967' and cement was in place at 9:45 a.m.
February 9, 1952	Located top plug with drill pipe at 1868'.
February 9, 1952	Cemented for lost circulation. Pumped in 50 sacks Utah Construction cement mixed with 6 barrels $CaCl_2$ water (118 pcf slurry) through open-end drill pipe at 1887'. Displaced with 1 barrel water, 14 barrels mud followed with 1 barrel water. 3 minutes mixing and 6 minutes displacing. Cement in place at 5:45 p.m. Used Halliburton power equipment.
February 9-10, 1952	Located top plug at 1804' and fluid level at 635' with Halliburton wireline. Filled hole with water and fluid level held at surface. Ran 9-7/8" bit, cleaned out cement 1804'-1898' and commenced losing circulation at 1899' at 30 bbls./hr. rate. Drilled out cement with partial circulation to 1927'.
February 10, 1952	Cemented for lost circulation. Pumped in 35 sacks Utah Construction cement mixed with 4-1/2 barrels $CaCl_2$ water (116 pcf slurry) through open-end drill pipe at 1926'. Followed cement with 15 barrels water to displace. Two minutes mixing and three minutes displacing. Cement in place at 8:50 a.m. Used Halliburton power equipment.
February 10-11, 1952	Located top cement plug at 1885' with drill pipe. Filled hole with mud and fluid level held at surface. Ran 9-7/8" bit, cleaned out cement 1885'-2017' with full returns, and drilled 9-7/8" hole 2017'-2054', limestone and shale, with full returns.
February 11, 1952	Diamond cored 7" hole 2054'-2064'. While coring at 2062' commenced losing mud at approximately 21 bbl./hr. rate. Mud loss continued to 2064'. After pulling C.B. checked fluid loss by filling hole to surface with approximately 60 barrels mud. Fluid level at surface dropped to 6' in 15 minutes indicating an approximate 4 bbl./hr. loss.

February 11, 1952 (Cont'd)	2054'	2064'	10'	Recovered 10':
	2054'	2064'	10'	Limestone, gray, hard, tough to brittle, shaly in the upper portions, compact, finely crystalline. Contains common nodules and thin lenses of black, microcrystalline chert. There are only 2 main fractures, and these appear to be only slightly open. No fluorescent cut was obtained, although some calcite fillings had local blue-white, yellow, and very faint green fluorescence. There is no apparent staining, but a fair, fleeting petroliferous odor on a fresh surface. There is no apparent P & P, except in the fractures mentioned. Poor dips of 2°.

February 11-13, 1952

Opened 7" hole to 9-7/8" from 2054'-2064' and drilled 9-7/8" hole 2064'-2205', shaly limestone and shale. While drilling at 2205', twisted off leaving 9-7/8" bit, 157' of 7" DC's, and 9' subs in hole. Twisted off at 5" U.T. and RJ70 crossover sub. Top fish 2037'. Ran 9" Shaffer socket and bumper sub, engaged fish and recovered same.

February 14-15, 1952

Drilled 9-7/8" hole 2205'-2298', limestone and shale. Lost 20 barrels mud while drilling 2279'-2298'.

February 16, 1952

Diamond Cored 7" hole:

2298'	2304'	6'	Recovered 6':
2298'	2304'	6'	Shaly limestone, gray to dark gray, hard, brittle, compact, fossiliferous, extremely shaly, sugary-crystalline. Very badly fractured with calcite fillings to 1/4" thick and varying from vertical to 70°. A few fractures appear to be very slightly open because of the very thin coating of scattered patches of mud they contain. Scattered, ragged stylolites with a black, shaly coating and some black, shaly partings are common. There is no apparent stain or cut, although the calcite commonly fluoresces blue-white to creamy white with a faintly greenish tinge with rare spots of orange fluorescence; and there is a fair to very fair, fleeting to slightly lingering petroleum odor. No

February 16, 1952 (Cont'd)

apparent P & P except in the fractures. Very poor to doubtful dips of 5°.

February 16-19, 1952

Opened 7" hole to 9-7/8" from 2298'-2304', and drilled 9-7/8" hole 2304'-2496', shaly limestone.

February 19, 1952

Ran Schlumberger electric log and micro-log. Recorded 204' to 2500'. Checked DP measurements after running electric log and corrected depth from 2496'-2499'.

February 20, 1952

Drilled 9-7/8" hole 2499'-2549', shaly limestone.

February 20, 1952

Diamond Cored 7" hole:

2549'	2555'	6'	Recovered 6':
2549'	2555'	6'	Shale, very dark gray, hard, brittle, very dense and compact, lime cement. Very slightly platy. Fracturing is very minor. The very few fractures are completely calcite-filled and only to 1/32" thick. There is no fluorescence, stain, or cut. Locally there is an extremely faint, extremely fleeting petroleum odor. No apparent P & P. Very poor dips of 5°.

February 20-24, 1952

Opened 7" hole to 9-7/8" from 2549'-2555' and drilled 9-7/8" hole 2555'-2796', limey shale.

February 25, 1952

Diamond Cored 7" hole:

2796'	2802'	6'	Recovered 6':
2796'	2802'	6'	Shale, dark gray, very firm to hard, brittle, platy, slightly limey, locally fossiliferous, irregular nodules of pyrite. The very few fractures are local, calcite-filled and paper thin. Abundant cleavage planes dip at 55°. Fossils are localized in thin beds (1/2") and appear to be predominantly calcite-replaced brachiopods? There is no stain, cut, or fluorescence and no odor, except a very local, rather doubtful, fleeting, fetid odor. There is no apparent P & P, unless some cleavage planes are very slightly open. Fossil zones and other bedding features indicate an approximate dip of 10°.

February 28-29, 1952 — Opened 7" hole to 9-7/8" from 2796'-2802' and drilled 9-7/8" hole 2802'-3024', limey shale.

February 29, 1952 — Diamond Cored 7" hole:

3024'	3029'	5'	Recovered 5':
3024'	3029'	5'	Shale, dark gray to black, very firm to hard, tough, but very flaky, very dense and compact, limey, apparently homogeneous. There are no fractures or cleavage planes. There is no stain, cut, or fluorescence, and only an extremely faint, very swiftly fleeting petroleum odor. There is no apparent P & P. Very poor dips of 5°-7°.

February 29-March 4, 1952 — Opened 7" hole to 9-7/8" from 3024'-3029' and drilled 9-7/8" hole 3029'-3207-1/2', shale and limestone. Lost circulation completely while drilling at 3207-1/2', and bit dropped 1/2' to 3208'. Located fluid level at 1025' with Halliburton wireline.

March 5, 1952 — Formation test 3163'-3208' N. G. Valve open 30 minutes from 1:58 a.m. Had medium strong blow decreasing to fair blow in 4 minutes, diminishing to faint in 5 minutes. Dead in 7 minutes. Commenced filling annulus with water; and a very faint, slightly pulsating blow was renewed for approximately 15 minutes. Stopped filling annulus, and the blow died. Pulled tester at 2:28 a.m. and reset packer at 2:32 a.m. Had negative blow (suction) for 3 minutes. Commenced filling annulus, and the very faint blow returned. Packer would not hold. Pulled tester and recovered 2668' net rise of muddy water testing: pH 8, Cl 350 ppm. Sample taken immediately above tool tested: pH 11.5; Cl 350 ppm.

Tool detail: Ran Halliburton tester on 3062' of dry 2-1/2" UE tubing and 81' of DC's with Shaffer jar-safety joint and 1/2" bean in tool. Set single 8-1/2" sidewall packer at 3163' with 45' of perforated tail pipe and two pressure recorders to 3208'.

March 5-6, 1952 — Formation test 3173'-3208'. Valve open 19 hours 13 minutes from 8:52 a.m. (3/5/52). Medium strong blow steadily decreasing to medium blow in 2 minutes and diminishing to faint in 8 minutes. Dead in 11 minutes. Filled annulus with water and had no blow from tubing. Commenced swabbing fluid at 2 p.m. Rig water tested: pH 8, Cl 175 (all salinities in parts per million). Drilling mud tested pH 11, Cl 350. First fluid swabbed was very muddy water testing: pH 8.5, Cl 300. The 28th swab run yielded muddy water with an extremely faint rainbow film on the surface and a very pale greenish-white fluorescence that gives a Cl, cut. This film does not increase upon standing for any period of time. The fluid also was becoming grayish brown in color, had a sulfur

March 5-6, 1952 (Cont'd)

(H_2S) swamp-like odor, and yielded 4 pts of total gas (all methane). It tested: pH 9.5, Cl 300. The gas content increased very gradually to 7 pts total gas (all methane) on the 100th swab run. The fluid had become very dark gray to black in color, and the sulfur odor was strong throughout the rig and nearby area. It tested pH 9.5, Cl 400. On the 112th swab run the fluid began changing to a more reddish-brown color and increased to 10 pts total gas (all methane). This color change continued throughout the remainder of the swabbing, and the increased gas content remained relatively steady between 12 and 15 pts of total gas (all methane). At this point the fluorescence and rainbow film decreased and were not apparent after the 120th swabbing. The final or 148th swab yielded dark brown water with the very strong sulfur odor and 12 pts total gas (methane). It tested pH 9.25, Cl 600. Swabbed 148 times, recovering about 400-450' of fluid per run or recovered a total of approximately 350 barrels of fluid. The fluid level on the first swab run was at approximately 1600'. It was 1500' on the second swab, 1000' on the fourth swab, and steadied at approximately 750' on the fifth swab, where it remained throughout the test. Recovered net rise of 156' of muddy water (testing pH 9.25, Cl 550). This fluid recovered from the tubing only gave 3 pts total gas with 2 pts of methane. The fluid in the tool gave 4 pts total gas with 1 pt of methane, and cuttings in the tool yielded 9 pts total gas and 1 pt methane. The pressure bombs did not operate properly, and therefore the pressure charts could not be interpreted. The annulus, above the packer, was filled with water throughout the test, and after 7 hours this water level had dropped 132'. Because the fluid was plain water and the fact that the swabbed fluid was strong sulfur water containing gas, indicates this water loss was probably not past the packer.

Tool detail: Ran Halliburton tester on 3072' of dry 2-1/2" UE tubing and 81' of 7" drill collars with Shaffer jar-safety joint and 1/2" bean in tool. Set single sidewall packer at 3173' with 35' of perforated tail pipe and two pressure recorders to 3208'.

March 6, 1952

Drilled 9-7/8" hole 3203'-3221' with water and without returns. Twisted off while drilling at 3221'. Left 247' of fish in hole, including 9-7/8" bit, 4 subs, and 238' of drill collars with top of fish (7-1/8" DC) at 2974'. Ran 9" Shaffer socket with 7-5/16" slips, Shaffer bumper sub, Shaffer jar-safety joint, and 79' of DC's. Took hold of fish and recovered same.

March 7, 1952 — Cemented for lost circulation. Pumped in 159 sacks of cement (135 sacks Utah and 15 sacks Ideal) mixed with 20 barrels of $CaCl_2$ water (ave. 118 pcf slurry) through open-end drill pipe at 3218'. Followed cement with 1 barrel water and 30 barrels mud to displace. 14 minutes mixing and 5 minutes displacing. Cement in place at 2:55 a.m. Used Halliburton power equipment.

March 7, 1952 — At 7:00 a.m. located top solid cement plug at 3019' with open-end drill pipe.

March 7, 1952 — At 9:00 a.m. filled hole with water, and fluid level held at surface.

March 7, 1952 — Cleaned out cement 3019'-3221'. Drilled 9-7/8" hole 3221'-3241', limestone and shale.

March 8, 1952 — Diamond Cored 7" hole (core #17):

3265'	3271'	6'	Recovered 6':
3265'	3271'	6'	Limey shale, dark gray to black, hard, dense, and very compact, extremely limey, apparently thin bedded (1/2" - 6"). Completely fractured and shattered throughout. Some fractures are to 1/2" thick, crystalline calcite lined, and apparently slightly open. Smaller fractures are commonly completely calcite filled, though a few appear slightly open. Predominantly high angle. NSC or fluorescence, but some fresh surfaces and fractures have a very fetid (H_2S) odor, as in the swabbed fluid of HFT #2A. No apparent P & P except in fractures. Fair to good dips of 12-16°.

March 8, 1952 — Opened 7" hole to 9-7/8", 3265'-3271'. Drilled 9-7/8" hole 3271'-3290'.

March 9, 1952 — Drilled 9-7/8" hole 3290'-3306'. Partial lost circulation while drilling 9-7/8" hole 3306'-3317'; total loss over this interval was 200 barrels. Drilled 9-7/8" hole 3317'-3354' with negligible fluid loss.

March 10, 1952 — Drilled 9-7/8" hole, 3354'-3421'; limestone and shale.

March 11, 1952 — Drilled 9-7/8" hole, 3421'-3500'; shale and limestone.

March 12, 1952 — Drilled 9-7/8" hole, 3500'-3525'.

March 12, 1952 — Diamond Cored 7" hole: (core #18)

3525'	3530'	5'	Recovered 5':
3525'	3530'	5'	Shale, dark gray to black, hard, extremely brittle and platy, very limey, carbonaceous, rather thin bedded (1/2" to 1'). Occasional thin, calcite-filled fractures and common thin calcite fillings, apparently along bedding planes. Abundant highly polished (slickenside) planes generally appear to be associated with bedding plane slippage. N.O.S.C.F. No apparent P & P. Fair to good dips of 30°.

March 12, 1952 — Opened 7" hole to 9-7/8", 3525'-3530' and drilled 9-7/8" hole 3530'-3544'; shale and limestone.

March 13, 1952 — Drilled 9-7/8" hole 3544'-3614'; limestone and shale.

March 14, 1952 — Drilled 9-7/8" hole 3614'-3694'; limestone and shale.

March 15, 1952 — Drilled 9-7/8" hole 3694'-3760'; shale and limestone with some chert in the interval 3722'-3760'.

March 16, 1952 — Drilled 9-7/8" hole, 3760'-3768'.

March 16, 1952 — Diamond Cored 7" hole (Core #19):

3768'	3773'	5'	Recovered 5':
3768'	3773'	5'	Shale, very dark gray to black, very firm, extremely brittle and fissile, slightly dolomitic, extremely fractured and shattered, very numerous slickensided surfaces cutting through core at every angle, these surfaces very highly polished-vitreous lustre-conchoidal fracture; upper 1/3 less compact than lower 2/3. Fractures filled with white dolomite and of a very irregular, interconnected nature. No SCOF. No apparent P & P, except possibly in fractures. Very poor to doubtful dips of 5°.

March 16, 1952

Opened 7" hole to 9-7/8", 3768'-3773', and drilled 9-7/8" hole 3773'-3802', shale, slightly dolomitic.

March 17, 1952

Drilled 9-7/8" hole, 3802'-3856'; shale with trace of limestone.

March 18, 1952

Formation test 3674'-3856'. Ran Halliburton formation test on 3538' of dry 4-1/2" F.H.D.P. and 134' of 7" DC's with Shaffer jar-safety joint and 1/2" bean in tool. Set single sidewall packer at 3674' with 58' of 5-9/16" perforated drill pipe and 118' of 4-1/2" drill pipe and two pressure recorders to 3856'. Perforations 3674'-3729' and 3851'-3854'. Valve open 37 minutes from 6:15 a.m. Had fair air blow diminishing to faint in 1 minute, very faint in 2 minutes, gradually dying by fair heads. Dead in 7 minutes. Recovered net rise of 107' drilling, mud testing: W 75 pcf, V 120 sec. CL-550 ppm. Mud in ditch: W75 pcf, V 61 sec. CL-550 ppm. Had 12 pts total gas and 11 parts methane in recovered mud. Mud in annulus dropped 12 inches during test period. Top pressure chart showed static head of 1850 psi which dropped to 125 psi when valve opened and remained at 125 psi throughout test period. Bottom chart showed static head of 1950 psi, which dropped to 200 psi when valve opened and remained at 200 psi throughout test period. Charts indicated valve opened throughout test and tester operated satisfactorily.

March 18, 1952

Drilled 9-7/8" hole, 3856'-3897'; shale.

March 19, 1952

Drilled 9-7/8" hole, 3897'-3950'; shale.

March 19, 1952

Diamond Cored 7" hole (Core #20):

3950'	3956'	6'	Recovered 5':
3950'	3956'	5'	Shale, dirty dark gray to black, commonly firm to earthy and extremely brittle, but locally hard and brittle, very slightly limey and dolomitic, very slightly fossiliferous. Core is very badly shattered with calcite streaks locally; and apparently along bedding planes, except for a 6" zone in the center of the core, it is almost impossible to break a fresh surface. As in Core #19, it breaks along very highly polished, slickensided surfaces. NOSCS. Some P & P possibly exists within shattered zones. Very poor dips of 12-18°.

March 20, 1952

Opened 7" hole to 9-7/8", 3950'-3956', and drilled 9-7/8" hole 3956'-4013'; shale.

March 21, 1952

Drilled 9-7/8" hole, 4013'-4079'; shale.

March 22, 1952

Formation test 3942'-4408'. NG. Ran Halliburton test on 3851' of dry 4-1/2" DP, 80' of 7" DC's, with Shaffer jar-safety joint, 1/2" bean in tool. Set straight single sidewall packer at 3942' with 166' of tail pipe including 47' of perforated 3942'-3987' and 3' perforated 4102'-4105', and two pressure bombs to 4108'. Valve open 11 minutes from 3:19 a.m. Had fair blow for 1 minute, diminishing to faint blow for 4 minutes, to faint, steady pulsating heads for 5 minutes. Fluid in annulus dropped 10' when pkr was set. Held momentarily; then dropped slowly out of sight. Recovered 730' mud testing: W 75 pcf and CL-500 ppm. Pressure charts indicated that packer leaked immediately after valve was open and continued to leak for entire test period.

March 22, 1952

Formation test 3934'-4108'. Ran Halliburton test on 3799' of dry 4-1/2" DP, 134' of DC's, and Shaffer jar-safety joint, with 1/2" bean in tool. Set single sidewall packer at 3934' with 174' of tail pipe perforated 3934'-3979' and 4102'-4105', and two pressure recorders to 4108'. Valve open 40 minutes from 11:02 a.m. Had fair puff blow for 30 seconds; then dead for 9-1/2 minutes. Fluid level held at surface for first 10 minutes. Opened by-pass valve and closed again without unseating packer to determine if tool was plugged. Lost approximately 7 barrels of mud from annulus through by-pass before closing by-pass valve, then fluid level held in annulus. The opening and closing of the by-pass valve was accompanied and followed by a medium good blow for 5 minutes, indicating tool was not plugged. The blow diminished to fair for 1 minute, very faint for 1 minute, then dead for 14 minutes. Pulled packer loose after jarring 29 tons over weight of testing string. Recovered 734' net rise (490' of which was probably mud that entered DP when by-pass valve was opened) testing Wt. 75 pcf; Vis. 75 sec.; CL-500 ppm. There was a total of 12 points of gas in mud, which included 10 points of methane. The top pressure chart showed a static head of 2000 psi, which dropped to 0 psi when valve opened and remained at 0 psi for 10 minutes, at which time the by-pass valve was opened to determine if tool was plugged. After by-pass valve was opened and closed, the tool partially plugged for balance of test period. The bottom pressure chart showed a static head of 2150 psi, which dropped to 300 psi when the valve opened, then immediately increased to 2150 psi, indicating that the bottom perforations plugged. The top chart indicated that the valve was open, packer held, and the uppermost 45' of perforations were open for the first 10 minutes of the test and that this

March 22, 1952 (Cont'd)

first 10-minute period of the test was conclusive. Although the bottom chart indicates that the lowermost 3' of perforations became plugged immediately after the valve was opened, the top chart shows that the first 10 minutes of the test were conclusive for the overall interval 3934'-4108'.

March 22, 1952

Drilled 9-7/8" hole, 4108'-4128'; shale.

March 23, 1952

Drilled 9-7/8" hole, 4128'-4168'.

March 23, 1952

Diamond Cored 7" hole (Core #21):

4168'	4173'	5'	Recovered 5':
4168'	4173'	5'.	Shale, dark gray to black, firm to hard, brittle, dense, highly shattered and contorted with numerous highly polished slickensided surfaces, occasional finely disseminated pyrite; poor indication (by faintly noticeable lineations) of dips ranging from horizontal to nearly vertical. No apparent P & P, except possibly in calcite veinlets and shattered zones. No odor or stain. Very small and very scattered spots of good yellow-brown fluorescence occurring throughout core. Some areas with more than others; has a poor, pale greenish-yellow fluorescent cut. These are found (as far as could be determined) only on slickensided surfaces.

March 24, 1952

Opened 7" hole to 9-7/8", 4168'-4173', and drilled 9-7/8" hole, 4173'-4229'; shale and limestone.

March 25, 1952

Drilled 9-7/8" hole, 4229'-4265'; shale and limestone.

March 26, 1952

Drilled 9-7/8" hole, 4265'-4294'; predominantly shale, with some limestone.

March 27, 1952

Drilled 9-7/8" hole, 4294'-4343'; shale.

March 28, 1952

Drilled 9-7/8" hole, 4343'-4380'; shale.

March 29, 1952

Drilled 9-7/8" hole, 4380'-4415'; shale.

March 30, 1952 — Drilled 9-7/8" hole, 4415'-4435'; shale.

March 30, 1952 — Diamond Cored 7" hole (Core #22):

4435'	4440'	5'	Recovered 5':
4435'	4440'	5'	Shale, dark gray to black, hard, tough to slightly brittle, very dense and compact, slightly calcareous, especially near the bottom, siliceous, moderately coarse. There are several short, calcite-filled fractures; and one reaches a maximum width of 1/16". No apparent P & P. N.S.C.F. A fresh surface has a faint, slightly lingering H_2S odor. Poor dips of 2°-10°.

March 30, 1952 — Opened 7" hole to 9-7/8", 4435'-4440' and drilled 9-7/8" hole 4440'-4442'; shale.

March 31, 1952 — Drilled 9-7/8" hole, 4442'-4480'; shale with traces of limestone.

April 1, 1952 — Diamond Cored 7" hole (Core #23):

4480'	4490'	10'	Recovered 10':
4480'	4490'	10'	Shale, dark gray to black, very firm to hard, brittle to extremely brittle in the shattered zone, slightly siliceous, very slightly calcareous, except locally, where it is very limey, pyritic, fine to moderately coarse. There is no major fracturing; but extremely thin calcite-filled fractures are common, especially in the shattered zone between 4482'-4484'. There is no apparent P & P, except possibly in the shattered zone. NSCF. A fresh surface has a fair, lingering odor of H_2S. Good dips of 8°-12°.

April 1, 1952 — Opened 7" hole to 9-7/8", 4480'-4490', and drilled 9-7/8" hole, 4490'-4531'; shale.

April 2, 1952 — Drilled 9-7/8" hole, 4531'-4585'; fractured shale.

April 3, 1952 — Drilled 9-7/8" hole, 4585'-4590'; limestone.

April 3, 1952 — Diamond Cored 7" hole (Core #24):

4590'	4605'	15'	Recovered 15':
4590'	4605'	15'	Limestone, light to medium to dark gray, hard, brittle, very dense and compact, commonly very pure, oolitic, fossiliferous, finely crystalline; high-angle calcite-filled fractures are occasional to common and may be locally to 1/4" wide. Large (to 1"), irregular, calcite-filled vugs and openings are rather common, jagged stylolites. No apparent P & P, except possibly in the stylolites and rarely in the fractures. NSOF. Locally a very faint, fleeting, fetid odor. No dips are apparent.

April 3-4, 1952 — Diamond Cored 7" hole (Core #25):

4605'	4643'	38'	Recovered 38':
4605'	4620'	15'	Limestone, as in Core #24. Calcite-filled fractures and stylolites are much less common, and calcite-filled vugs are very rare. NSOF. Locally an extremely faint, fleeting, fetid odor. No apparent P & P, except possibly along stylolites.
4605'	4620'	23'	(4620'-4643') Shale, dark gray to black, hard, brittle to very brittle, very thin bedded, slightly calcareous, quite homogenous, pyritic, medium grained. Rare to locally occasional, thin, high-angle, calcite-filled fractures. Commonly very highly polished slickensided surfaces along bedding planes and some fractures. NOSOF. No apparent P & P. Dips are not apparent in the limestone, but very good dips of 5°-9° appear in the shale.

April 4-5, 1952 — Opened 7" hole to 9-7/8", 4590'-4643'.

April 6, 1952 — Conditioned hole for formation test.

April 7, 1952 — Formation test 4591'-4643'. Ran Halliburton tester on 4432' dry 4-1/2" DP and 159.57' drill collars with Shaffer jar safety joint and 1/2" bean in tool. Set single side-wall packer at 4591' with 51.60' perforated tail pipe and 1 pressure recorder at 4643'. Valve open 21.5 minutes. Opened at 7:45 a.m.; weak blow for 1 minute, very weak to faint blow for 1/2 minute. Dead 1-1/2 minutes after opening. Dead for 20 minutes. Pulled packer at 8:06 a.m. Recovered net rise of 25' of drilling fluid (pH 11.5, Cl-300). Fluid level held in annulus. Pressure charts indicate test was valid.

April 7, 1952 — Drilled 9-7/8" hole, 4643'-4665'; shale.

April 8, 1952 — Drilled 9-7/8" hole, 4665'-4709'; shale and limestone.

April 9, 1952 — Drilled 9-7/8" hole, 4709'-4769'; shale and limestone.

April 10, 1952 — Drilled 9-7/8" hole, 4769'-4809'; shale.

April 11, 1952 — Drilled 9-7/8" hole, 4809'-4863'; shale.

April 12, 1952 — Drilled 9-7/8" hole, 4863'-4915'; shale.

April 13, 1952 — Diamond Cored 7" hole (Core #26):

4915'	4923'	8'	Recovered 8':
4915'	4923'	8'	Shale; dark gray to black; tough to brittle, hard, slightly to very slightly calcareous; homogeneous, thin bedded, medium to coarse grained; fairly common highly polished slickensided surfaces on bedding planes, and occasionally cuttings bedding planes. Fairly pyritic; no apparent fossils. Calcite-filled fractures are very occasional to locally common. They both parallel the bedding and cut across it at fairly high angles. NOSCF. Very good dips of 3-6°--average 4°. No apparent P & P, except possibly along fractures.

April 13, 1952 — Opened 7" hole to 9-7/8" from 4915'-4923', and drilled 9-7/8" hole, 4923'-4955'; shale.

April 14, 1952 — Drilled 9-7/8" hole, 4955'-5014'; shale.

April 15, 1952 — Drilled 9-7/8" hole, 5014'-5081'; shale.

April 16, 1952 — Drilled 9-7/8" hole, 5081'-5139'; shale.

April 17, 1952 — Drilled 9-7/8" hole, 5139'-5180'; shale.

April 17-18, 1952 — Diamond Cored 7" hole (Core #27):

5180'	5185'	5'	Recovered 5':
5180'	5185'	5'	Shale; dark gray to black; hard to very hard, extremely dense and compact; tough to brittle along edges; dolomitic, pyritic, thin bedded, fine to medium grained. Rare, high-angle, calcite-filled fractures to 1/8" wide. Polished, slick-ensided surfaces are rare. No apparent P & P. NOSCF. Good dips of 6°-8°.

April 18, 1952 — Opened 7" hole to 9-7/8" from 5180'-5185', and drilled 9-7/8" hole, 5185'-5218'; shale.

April 19, 1952 — Drilled 9-7/8" hole, 5218'-5266'; shale with limestone and silt.

April 20, 1952 — Drilled 9-7/8" hole, 5266'-5321'; limestone with shale and silt.

April 21, 1952 — Drilled 9-7/8" hole, 5321'-5368'; shale with limestone and silt.

April 22, 1952 — Drilled 9-7/8" hole, 5368'-5424'; shale with trace of limestone and silt.

April 23, 1952 — Drilled 9-7/8" hole, 5424'-5445'.

April 23, 1952 — Diamond Cored 7" hole (Core #28):

5445'	5450'	5'	Recovered 5':
5445'	5450'	5'	Limestone; very impure (silty and/or shaly); dark gray to dark brown-gray; hard; dense; fairly brittle; homogeneous lithology throughout core, except for fractured and brecciated zones; no recognizable fossils. The core is cut by numerous high-angle, calcite-filled fractures (up to 1/2"); other less common fractures (up to 1/3") are filled with black silt or shale, and, when broken open, are highly slickensided. There are 2 prominent breccia zones--one 1' from

April 23, 1952 (Cont'd)

the bottom and the other 1' from the top--which are up to 4" thick, but vary considerably. NSCF. Fresh surfaces yield a fair H_2S odor. No apparent P &P, except possibly along fractures. No apparent bedding.

April 23, 1952

Opened 7" hole to 9-7/8" from 5445'-5450', and drilled 9-7/8" hole, 5450'-5459'; limestone and shale.

April 24, 1952

Drilled 9-7/8" hole, 5459'-5475'. While drilling at 5475' lost 75 barrels mud. Continued to lose mud at 6-12 bbls/hr rate to 5477', where full returns were obtained. Drilled ahead and commenced losing mud at 60 bbls/hr rate to 5484'.

April 24-25, 1952

Halliburton formation test, 5447'-5484'. Valve open 2 hours 2 minutes from 6:04 p.m. (4-24-52). There was a weak blow for the first 1/2 minute, increasing rapidly to a good blow, which remained steady until 6:25 p.m., when it began decreasing very slowly to a fair to good blow. The blow diminished to a steady, weak blow until dead at 8:06 p.m. Dead for 3 minutes. Pulled packer at 8:09 p.m. and recovered a net rise of 4414' of mud and muddy water testing as follows:

4414' above packer: wt. 76, pH 10.75, Cl 200, gas: 2 total, 1 methane, no fluorescence.
3514' above packer: wt. 74, pH 10.75, Cl 200, gas: 2 pts. total, 1 methane, no fluorescence.
2614' above packer: wt. 70.5, pH 10.5, Cl 200, gas: 2 pts. total, 1 methane, no fluorescence.
1714' above packer: wt. 69, pH 10.5, Cl 150, gas: 2 pts. total, 1 methane, no fluorescence.
814' above packer: wt. 67.5, pH 10.5, Cl 200, gas: 2 pts. total, 1 methane, no fluorescence.
85' above packer: wt. 67, pH 10.5, Cl 200, gas: 2 pts. total, 1 methane, no fluorescence.
5' above packer: wt. 66, pH 10.3, Cl 200, gas: 2 pts. total, 1 methane, no fluorescence.

The drilling fluid immediately prior to losing circulation tested: wt. 86, pH 12.0-Cl 350. The pressure chart showed at static head of 2938 psi, which dropped to 280 psi when valve opened, then gradually increased to 2125 psi and remained at 2125 psi for last 15 minutes of test period. Pressure chart indicated valve opened throughout test. Fluid level held in annulus throughout test.

Tool detail: Ran tester on 5277' of dry 4-1/2" drill pipe and 160' of 7" drill collars with Shaffer jar safety joint and 1/2" bean in tool. Set single sidewall packer at 5447' with 37' of perforated tail pipe and one pressure recorder to 5484'.

April 25, 1952 — At 5 a.m. spotted 75 barrels of thick Gel mud mixed with cotton seed hulls on bottom through open-end drill pipe at 5483'. Filled hole to surface, but fluid level dropped at 10-15 bbl/hr rate.

April 25, 1952 — Cemented for lost circulation. Pumped in 50 sacks of Utah Construction cement mixed with 38 cu. ft. of water (ave. 114 pcf slurry) through open-end drill pipe at 5483'. Followed cement and displaced with 75 barrels of mud. 24 minutes mixing and 4 minutes displacing. Cement in place at 11:53 a.m. Had returns while displacing cement. Used drilling contractor's mud tank and mud pumps for job.

April 25, 1952 — At 5:00 p.m. filled hole to surface, and fluid level held okay.

April 26, 1952 — Drilled 9-7/8" hole, 5484'-5505'.

April 26, 1952 — Twisted off at 5:00 p.m. while drilling at 5505', leaving 205.7' of fish in hole, including 6-7" drill collars, 3 subs, and 9-7/8" Hughes bit. Top of fish at 5298' with RJ70 DC sheared-off pin up. Ran Shaffer 9" socket with 7-1/16" slips, Shaffer bumper sub, and Shaffer rotary jars. Took hold of fish, but slips failed to hold when pulled. Ran same tools as before, but with 6-13/16" slips in socket. Unable to engage fish.

April 27, 1952 — Ran Shaffer 9-1/8" O.D. socket with 7-1/16" long pull-down slips, Shaffer bumper sub, and Shaffer rotary jars. Took hold of fish repeatedly, but slips failed to hold when pull of 38,000# over weight of fishing string was applied. Ran same tools as above, except with 9" O.D. socket with 7-5/16" slips. Unable to engage fish. Pulled and found two bow springs missing, one slip jammed, and cage jarred.

April 28, 1952 — Ran new 9" O.D. Shaffer socket with one 6-13/16" and two 7-5/16" slips, Shaffer bumper sub and Shaffer jars. Engaged fish but unable to circulate through fish with 1700 psi pump pressure. Jarred on fish with 30 T. blows for 1/2 hour, and worked fish up 2'3"; then socket came loose from fish. Attempted to engage fish, but slips failed to hold. Pulled socket and found one slip missing, two small pieces of iron from lower part of cage missing, and socket bowl damaged.

April 29, 1952 — Ran new 9" O.D. Shaffer socket with 7-3/16" slips, Shaffer bumper sub, and Shaffer jars. Worked socket over fish but unable to engage slips. Pulled and found impressions on socket guide shoe that were probably from slip lost in hole from previous run. Slips indicated socket had been over fish, but damaged cam prevented slips from seating.

April 30, 1952

Repaired cam and re-ran 9" O.D. Shaffer socket with 7-3/16" slips, Shaffer jar-safety joint, and Shaffer bumper sub. Found 2-1/2' of fill above fish. Cleaned out 2' of fill with socket but unable to get lower. Ran 9-7/8" bit to top of fish, conditioned hole, and rotated on top of fish to mill up lost slip. Ran 9" O.D. socket with 7-13/16" slips and engaged fish. Applied 1500 psi pump pressure through fish and jarred for 5-minute intervals with 30 T. blows for 7-1/2 hours. Jarred fish up 21'; then socket came loose. Pulled socket and found one slip missing and two small pieces of iron from socket cage.

May 1, 1952

Ran 9-7/8" Hughes W7R bit, reamed 5181'-5275', and rotated on fish to mill up lost slip. Ran 9" O.D. Shaffer socket with 7-3/16" slips, Shaffer jar-safety joint, Shaffer bumper sub, engaged fish, and jarred with 30 ton blows for 1 hour while maintaining 1250 psi pump pressure on drill pipe. Fish jarred up approximately 5', then came free. Picked up approximately 20,000# over weight of fishing string. Recovered all of fish.

May 2, 1952

Drilled 9-7/8" hole, 5505'-5561'; limestone and shale.

May 2, 1952

While drilling at 5551' lost 110 bbls. mud at 31 bbls/hr rate. Rate of loss decreased to 20 bbls/hr at 5555' and to 10 bbls/hr at 5558'.

May 3, 1952

Drilled 9-7/8" hole, 5561'-5640'; limestone and shale. While drilling at 5570' drilling fluid was being lost at rate of 10 bbls/hr. Added 4 sacks of Cal-seal over period of 5 hours while drilling 5573'-5604'. Loss of fluid gradually diminished to virtually zero through interval of 5604'-5640'.

May 4, 1952

Drilled 9-7/8" hole, 5640'-5722'; shale and limestone.

May 5, 1952

Drilled 9-7/8" hole, 5722'-5764'; limestone.

May 5, 1952

Diamond Cored 7" hole: (Core #29)

5764'	5777'	13'	Recovered 13':
5764'	5777'	13'	Dolomite; medium to dark gray; sub-brittle; glimmering on fresh surfaces; upper 7' are dark gray, slightly silty, and finely crystalline; lower 6' fairly pure, medium gray, medium crystalline, and massive; all of core is moderately to highly fractured, but upper 7' more than lower 6'; fractures are interconnected, predominantly high angle to vertical, and up to 1/3" wide; fractures are filled

May 5, 1952
(Cont'd)

or lined with calcareous dolomite which often flowers out into irregular pores to tight vugs. Some of the fracturing in the upper part approaches brecciation. Many of fractures in the upper part, and occasionally in the lower part, show P & P. NSCF. P & P only along fractures. Upper 7' have fair H_2S odor on fresh surfaces. There was no recognizable bedding.

Gas; mud; 2 total-1 methane; cuttings; 6 total-5 methane.

May 6, 1952

Halliburton formation test #7 (5701'-5777'). Ran Halliburton tester on 5602' of dry 4-1/2" drill pipe and 82' of 7" drill collars with Shaffer jar safety joints, 1/2" bean in tool. Set single sidewall packer at 5701' with 76' of tail pipe perforated 5701'-5724' and 5754'-5777', and one pressure recorder to 5777'. Valve open 8 hours and 22 minutes from 3:28 a.m. to 11:50 a.m. (5/6/52). Initial strong puff, but diminished immediately to weak and gradually to very weak and finally faint at 3:33 a.m. Blow then increased gradually to weak by 3:45 a.m. and stayed weak until 3:55, when it diminished to faint by occasional very faint heads, but quickly picked up again to weak and remained weak--varying slightly in intensity--until about 10:00 a.m., when it began to gradually diminish and finally died at 11:30 a.m. Dead for 20 minutes. Recovered net rise of fluid of 4835' testing:
4835' above packer, wt. 64.5, pH 11, Cl 200, gas 2-1;
3935' above packer, wt. 62.5, pH 10.5, Cl 300, gas 2-1;
3035' above packer, wt. 62.2, pH 10, Cl 300, gas 2-1;
2135' above packer, wt. 62.2, pH 10, Cl 300, gas 2-1;
1235' above packer, wt. 62, pH 10, Cl 200, gas 2-1;
535' above packer, wt. 62.2, pH 10, Cl 200, gas 2-1;
87' above packer, wt. 62.5, pH 10, Cl 250, gas 2-1;
7' above packer, wt. 67.5, pH 10, Cl 250, gas 3-2.
All samples were contaminated with rig dope, but none showed any oil fluorescence. All samples odorless. Upper 700'-800' of rise was drilling fluid; rest of rise (except for contamination at bottom of drill collar) consisted of muddy water which became fairly clear upon standing. Pressure chart showed static head of 2900 psi, which dropped to 150 psi when valve opened and gradually increased to 2150 psi, where it remained for last 20 minutes of test. Chart showed test satisfactory. Lost about 5 barrels of mud during test.

5830'-5830' and loss was 10 bbls/hr. No mud loss while drilling 5830'-5884'. 5884'-5895' losing mud at rate of 23 bbls/hr.

May 8, 1952 — Drilled 9-7/8" hole, 5895'-5919'; dolomite. While drilling this interval, mud lost gradually decreased from 23 bbls/hr to no loss.

May 8, 1952 — Diamond Cored 7" hole (Core #30):

5919'	5929'	10'	Recovered 10':
5919'	5929'	10'	Dolomite: dark gray; moderately arenaceous and argillaceous; hard; dense; fine to medium crystalline; sub-brittle to brittle; rare pyrite. Moderately to highly fractured--lower 5' much more than upper 5'. Fair P & P along some fractures--especially in lower 5'. Fractures predominantly very high angle to vertical. Often offset by low-angle fractures. Fractures very irregular and up to 1/3" in diameter. Most fractures are lined or filled with white dolomite. Low-angle fractures commonly filled with black argillaceous material and frequently slickensided. Very faint yellow fluorescence throughout much of the core. Will not cut. No stain. Faint, fleeting H_2S odor on fresh surfaces. No recognizable bedding. P & P along fractures. Gas: 2 total--1 methane.

May 8, 1952 — Opened 7" hole to 9-7/8", 5919'-5929' and drilled 9-7/8" hole, 5929'-5940'.

May 9, 1952 — Drilled 9-7/8" hole, 5940'-6040'; dolomite with traces of silt and chert.

May 10, 1952 — Drilled 9-7/8" hole, 6040'-6081'; dolomite.

May 10, 1952

Diamond Cored 7" hole (Core #31):

6081'	6086'	5'	Recovered 5':
6081'	6086'	5'	Dolomite: dark gray; hard, brittle, moderate to slightly argillaceous, fossiliferous??, finely crystalline. The core is highly shattered, and stylolites are very common. Pure, white crystalline dolomite nodules are common and frequently open in the center, forming small (to 1/2" in diameter) vugs. P & P appear to exist only within the vugs and possibly along some stylolites. NSC. There are rare to occasional spots of very faint, hazy orange fluorescence widely scattered throughout the core. They will not cut and do not appear inside vugs. A fresh surface has a faint H_2S odor. No dips are apparent.

May 10, 1952

Opened 7" hole to 9-7/8", 6081'-6986' and drilled 9-7/8" hole, 6036'-6092', dolomite.

May 11, 1952

Drilled 9-7/8" hole, 6092'-6166', dolomite.

May 12, 1952

Drilled 9-7/8" hole, 6166'-6195', dolomite.

May 12, 1952

Diamond Cored 7" hole (Core #32):

6195'	6200'	5'	Recovered 5':
6195'	6200'	5'	Dolomite: dark gray to dark-brown gray, very dense and compact, homogeneous, slightly argillaceous, slightly fossiliferous, finely crystalline. Core appears to be slightly shattered and has abundant hair-thin white dolomite-filled fractures. Rare small vugs and occasional stylolites. P & P possibly exist within some vugs, stylolites, and fractures; local spots of faintly buff fluorescence will not cut. No apparent staining. Fresh surface yields a fair, fleeting H_2S odor. No recognizable dips.

May 12, 1952

Released Baroid Logging Service at 6:30 p.m.

STANDARD-SOHIO
DESIGNATION UNIT #1
MILLARD COUNTY, UTAH

STANDARD OIL COMPANY OF CALIFORNIA-OPERATOR

May 12, 1952	Ran Schlumberger electrical survey. Recorded 2498'-6202'. Ran Schlumberger micro-log. Recorded 2498'-6198'.
May 13, 1952	Ran Schlumberger section gauge. Recorded 201'-6197'.
May 13, 1952	Ran Lane Wells neutron and gamma ray log. Recorded 204'-6198'.
May 14, 1952	Bridged hole with cement at 4667'. Pumped in 34 sacks of Utah construction cement mixed with 25 cu. ft. $CaCl_2$ water (ave. 116 pcf slurry) through open-end drill pipe at 4667'. Displaced cement with 368 cu. ft. mud. 6 minutes mixing and 14 minutes displacing. Cement in place at 9:29 p.m. Used Halliburton power equipment.
May 15, 1952	At 3:30 a.m. ran open-end drill pipe to 4727', but found no plug. Bridged hole with cement at 4667'. Pumped in 34 sacks of Utah construction cement mixed with 25 cu. ft. $CaCl_2$ water (ave. 116 pcf slurry) through open-end drill pipe at 4667'. Displaced cement with 368 cu. ft. of mud. 2 minutes mixing and 11 minutes displacing. Cement in place at 6:38 a.m. Used Halliburton power equipment. At 12:30 p.m. ran open-end drill pipe to 4727', but found no plug.
May 15, 1952	Bridged hole with cement at 4667'. Pumped in 50 sacks of Utah construction cement mixed with 36 cu. ft. of $CaCl_2$ water (ave. 116 pcf slurry) through open-end drill pipe at 4667'. Displaced cement with 364 cu. ft. mud. 6 minutes mixing and 12 minutes displacing. Cement in place at 2:35 p.m. Used Halliburton power equipment.
May 15, 1952	Bridged hole with cement at 4667'. Details of job same as for previous job, except cement was in place at 10:55 p.m.
May 16, 1952	Ran 9-7/8" bit and located top of cement at 4575'; cleaned out to 4585' and conditioned mud for formation test.
May 17, 1952	Attempted formation test 4451'-4585'. Ran Halliburton tester on 4358' of dry 4-1/2" drill pipe and 90' of 7" drill collars with Shaffer jar-safety joint, 1/2" bean in tool. Attempted to set straight sidewall packer at 4451' with 134' of tail pipe perforated 4453'-4473' and 4563'-4585', and one pressure recorder to 4585'. Plug would not hold

May 17, 1952 (Cont'd)

tester, packer slid 10', and valve failed to open except momentarily as packer slid. Pulled and recovered 360' of drilling fluid.

May 17, 1952

Ran 9-7/8" bit and cleaned out to 4604'.

May 16, 1952

Halliburton formation test 4465'-4604': Ran Halliburton tester on 4366' of dry 4-1/2" drill pipe and 85' of 7" drill collars with Shaffer jar-safety joint, 1/2" bean in tool. Set single sidewall packer at 4465' with 139' of tail pipe (perforated 4467'-4495' and 4581'-4604') and one pressure recorder at 4604'. Valve open 35 minutes from 12:21 a.m. Weak blow immediately, dying slowly to dead in 5 minutes; dead in 30 minutes. Recovered net rise of 120' of drilling fluid testing: wt. 65 pcf, vis. 41 sec. Mud in ditch tested: wt. 65 pcf, vis. 36 sec. Recovered fluid had a thick, frothy surface, which was contaminated with coarse to finely disseminated rig grease. The grease appeared to be the source of the bright, blotchy yellow fluorescence. No staining or odor. Mud from ditch had similar fluorescence, but of reduced intensity. Fluid level held in annulus throughout test. Pressure chart showed static pressure of 2075 psi, which dropped to 125 psi when valve opened and gradually increased to 150 psi at end of test. Chart showed valve was opened throughout test period.

May 18, 1952

Bridged shoe of 16" casing at 204'. Pumped in 80 sacks of Utah construction cement mixed with 432 cu. ft. of $CaCl_2$ water (ave. 116 pcf slurry) through open-end drill pipe at 250'. Displaced cement with 14-1/2 cu. ft. water. 7 minutes mixing and 1/2 minute displacing. Cement in place at 3:32 p.m. Capped 16" casing with 20 linear ft. of cement. Welded plate on surface of 16" casing. Well abandoned and rig released at 8:00 p.m., May 18, 1952.

OIL & GAS INFORMATION SYSTEM

FILE EDIT OIL GAS GAS PLANT REPORTS DB MAINTENANCE OPTIONS HELP DATA CONVERSION LOGS DATABASE QUERY

Well Data

WELL SEARCH | **WELL DATA** | **WELL HISTORY** | **WELL ACTIVITY**

WELL NAME: DESOLATION UNIT 1 API NUMBER: 4302711473 WELL TYPE: OW WELL STATUS: PA

OPERATOR: CHEVRON USA INC ACCOUNT: N0210 # OPERATOR APPROVED BY BLM / BIA ☐

DESIGNATED OPERATOR: ACCOUNT:

FIELD NAME: WILDCAT FIELD NUMBER: 1 FIRST PRODUCTION: LA | PA DATE: 5 18 1952

WELL LOCATION:

SURF LOCATION: 0565 FNL 2371 FWL

Q. S. T. R. M.: NENW 08 15.0 S 17.0 W S

COUNTY: MILLARD

UTM Coordinates:

SURFACE - N: 4379705.50 BHL - N:

SURFACE - E: 260815.70 BHL - E:

LATITUDE: 39.53560

LONGITUDE: -113.78300

CONFIDENTIAL FLAG ☐

CONFIDENTIAL DATE:

DIRECTIONAL | HORIZONTAL:

HORIZONTAL LATERALS:

ORIGINAL FIELD TYPE: W

WILDCAT TAX FLAG ☐

CB-METHANE FLAG ☐

ELEVATION: 5531' DF

BOND NUMBER / TYPE:

LEASE NUMBER: UNKNOWN

MINERAL LEASE TYPE: 1

SURFACE OWNER TYPE: 1

INDIAN TRIBE:

C.A. NUMBER:

UNIT NAME:

CUMULATIVE PRODUCTION:

OIL: 0

GAS: 0

WATER: 0

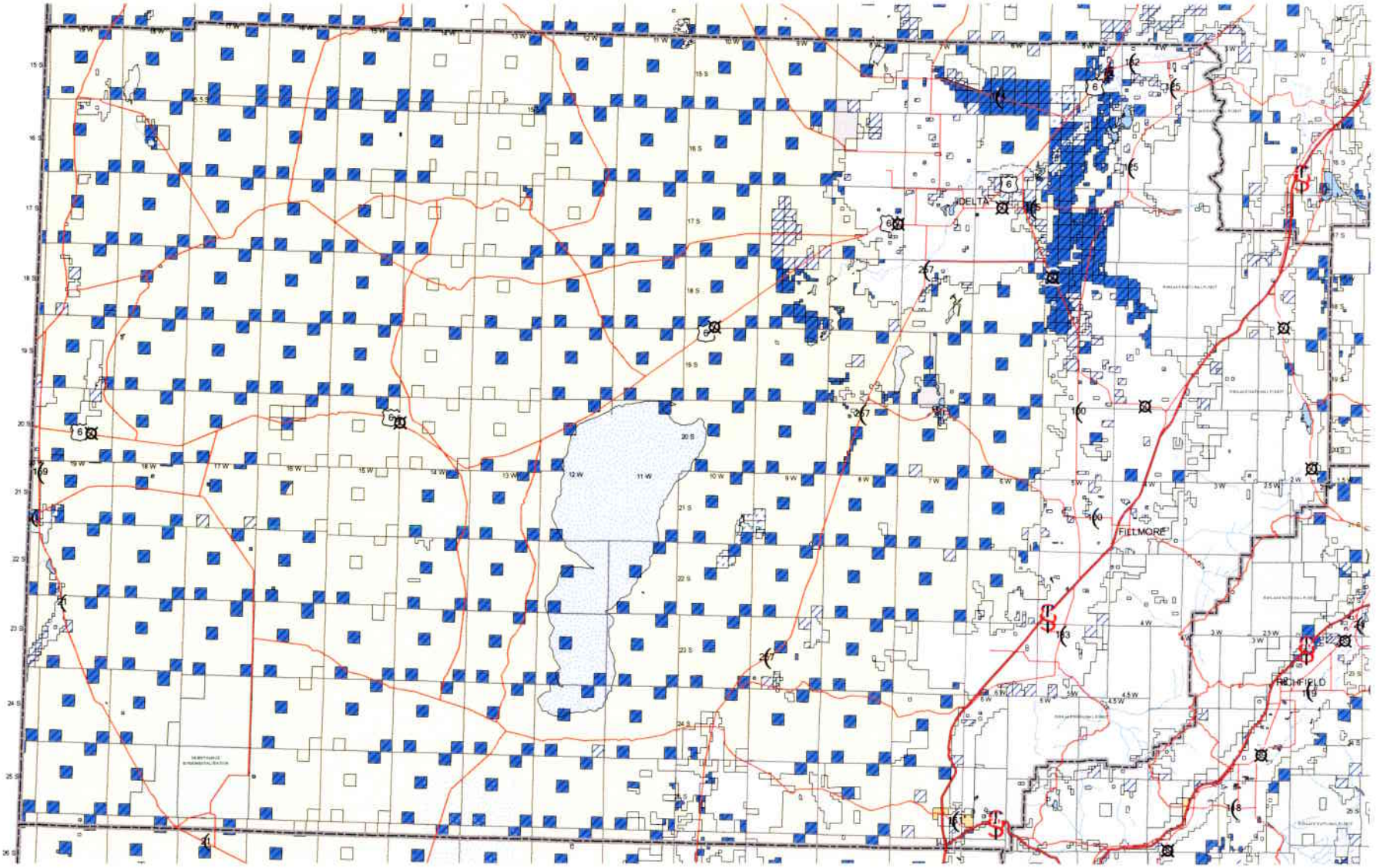
WELL IMAGES | **PRODUCTION GRAPH**

COMMENTS: PRIOR OGCC;INFO FR BULLETIN 50:050411 LEASE & SURF FED SEE FILE.

Create New Rec | Save | Cancel Change | **To History** | **To Activity** | **Print Recd** | **Export Recd**

Whistorycursor Record: 1/2 Exclusive NUM CAPS

Start | Novell-delivered ... | OIL & GAS INFO... | Well Selection Cri... | Utah Trust Lands... | County PDF Map... | ftp://lands5.stat... | 1:21 PM



MILLARD COUNTY

Surface and Mineral Trust Lands

July 6, 2004

0 3 6 9 12
Miles

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- Private
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